Issue 216

P.S

1970 Series
November

THE PREVENTIVE MAINTENANCE MONTHLY

SUPPORT COMES TO YOU...

THE (NEW) FLYING

Support maintenance comes to you; you don't always evacuate sick equipment to the rear!

In the case of high dollar, low density pieces of equipment, maintenance may go to the equipment.

Sound like science fiction? Nope . . . try again. This one is part of the Army's Logistics Offensive that will result in Direct Support coming to your outfit to fix your gear.

"Mobile Maintenance" will mean that DS will have contact teams come right to your unit and check out and repair by using plug-in type components. Real quick fix, in many cases. It'll be a lot like the TV repairman who comes to your pad and puts your set back in operation. The Army's mobile maintenance guys may be called "Flying Fixers," because they'll zip in by air in some cases.

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This idea of taking maintenance support to the unit's location has been tried in some outfits in Vietnam. It has worked with missiles, aircraft and fixed communication type of equipment.

So, look ahead to mobile maintenance. It's aimed at keeping your equipment ready all the time.

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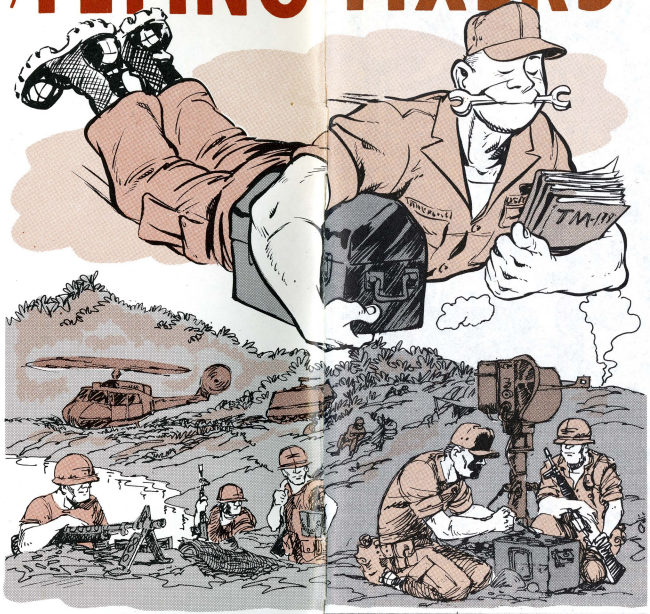

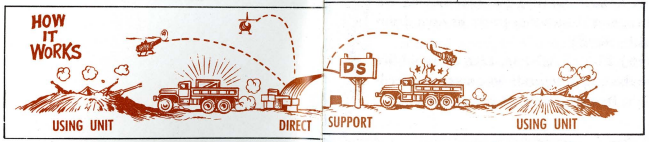

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FIXERS

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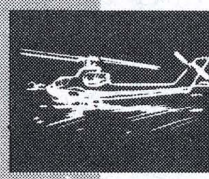

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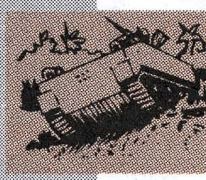

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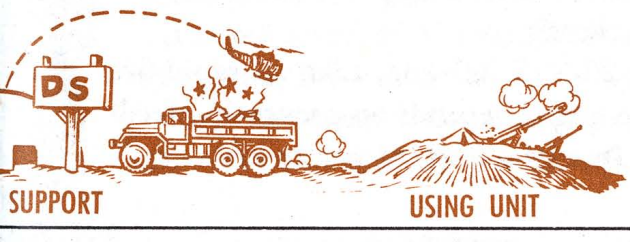

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You know it as the Vulcan . . . or XM163 20-MM AD gun. Like all rapid-fire weapons, much of its ability to vulcanize the target depends on preventing feeding jams. That calls for being careful right from the start, as you're loading.

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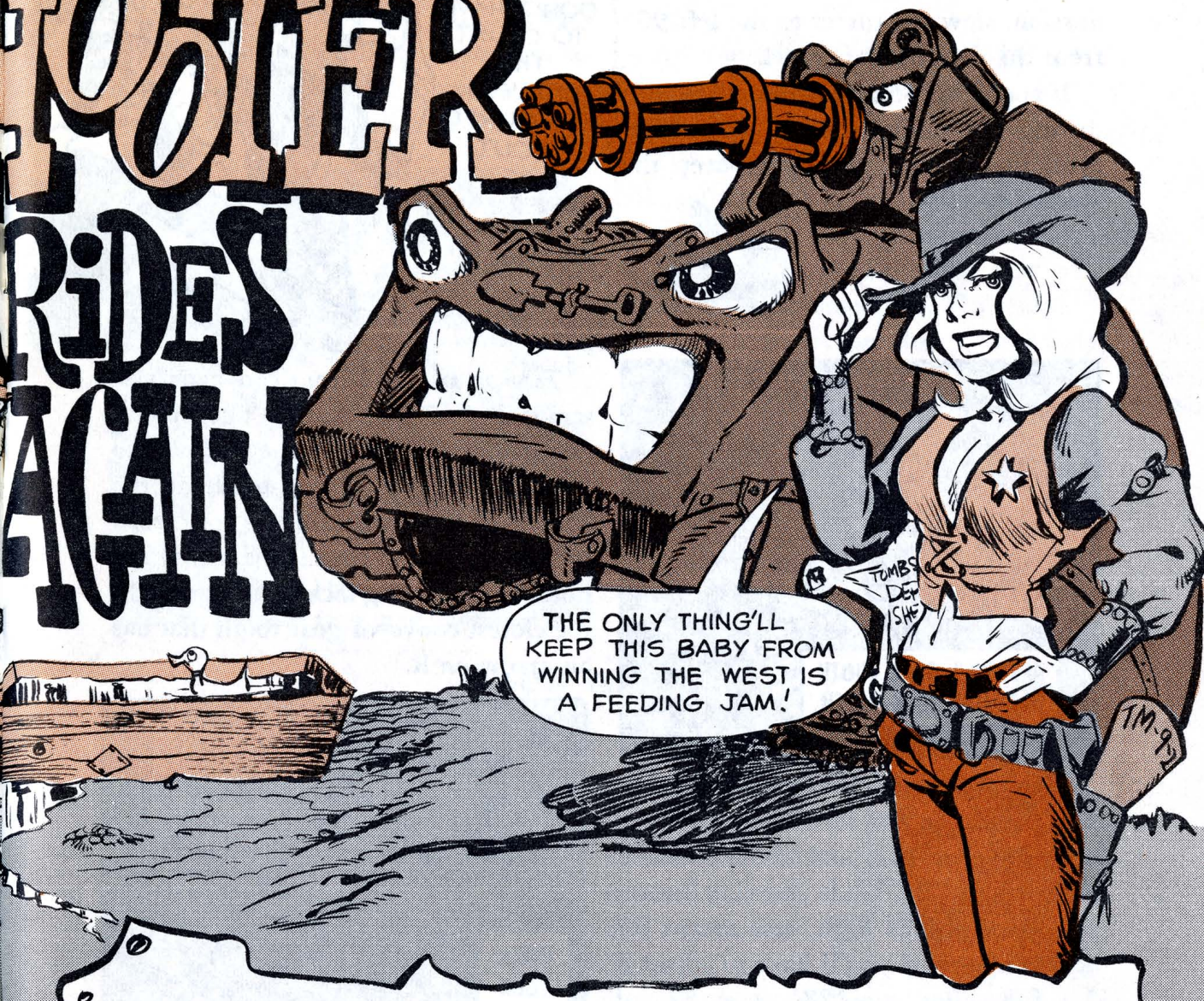
That king-size drum inside the Vulcan's converted M113A1 belly stores over 1000 linkless feed rounds at full capacity. So the only way to load that many rounds without carrying dirt, sand and gravel into the drum is to follow the loading instructions in para 2-18 of TM 9-2350-300-10 (Jul 68). Lower the ramp and also use the ammunition cover to keep the rounds off the ground.

Even though the 1-in hole drilled in the base of the drum sifts out some of it, too much dirt will eventually pack the bearing race in the drum's retaining and outer gears. If dirt buildup reaches the point where you can no longer turn that drum, the vehicle has to go to DS for a bearing cleaning and repack job.

Raise the ramp as soon as you're finished loading to keep dirt from blowing into the exposed loading mechanism.

PS MORE

TOTER RIDES AGAIN



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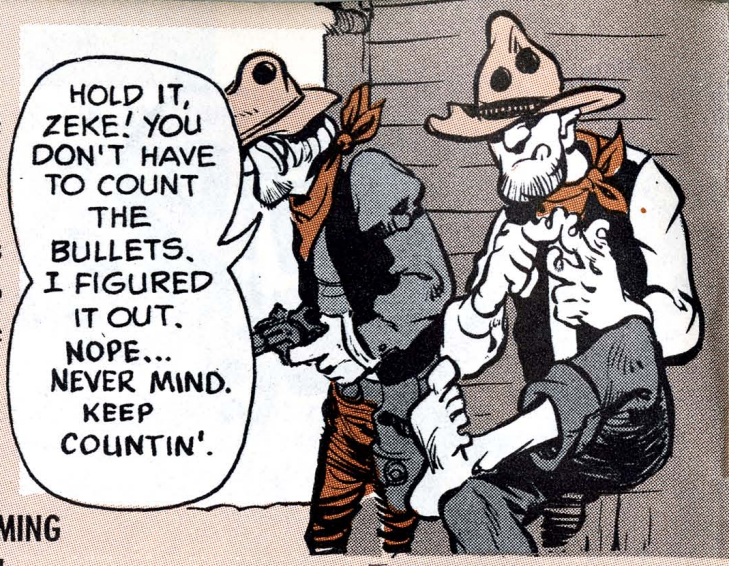
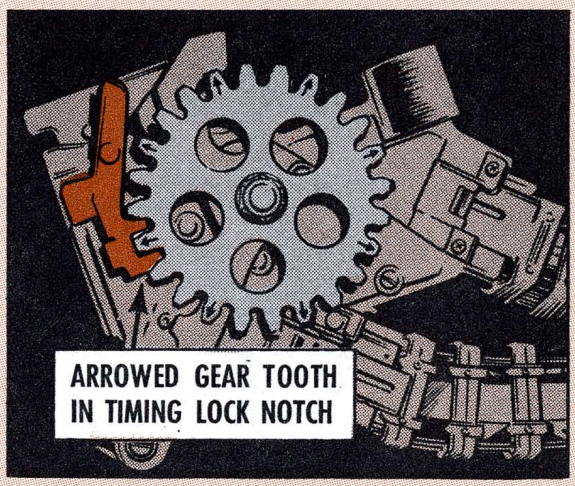
P.S MORE

If you have to reload during a fire mission, slew the turret to the left 90° from the direction of travel.

If you're only loading dummy rounds during a training mission, be sure to cycle the drum regularly to keep the system exercised.

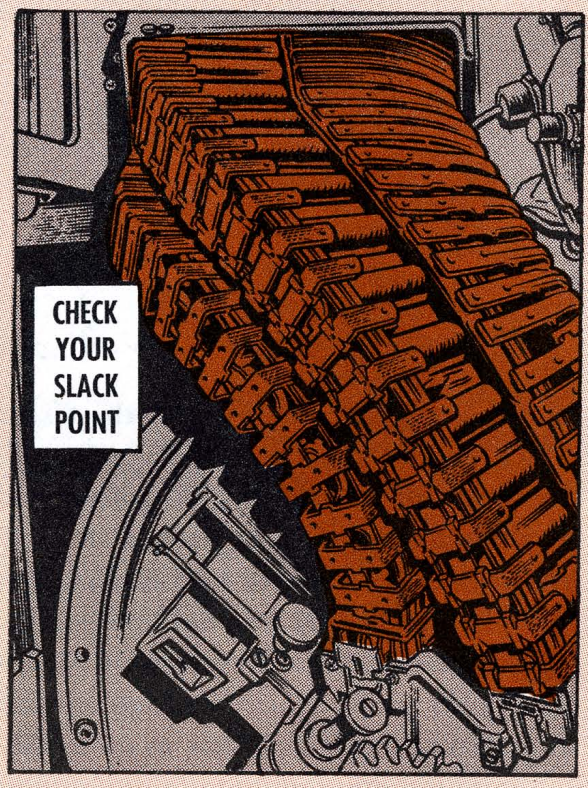


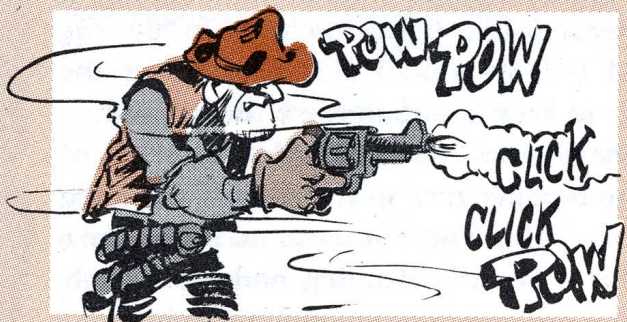
TIMING



Timing of the ammo conveyor system is the one thing you can't get sloppy about and still expect the weapon to fire. A difference of one tooth on the conveyor gear will throw your feed mechanism out of time. This is why the notch in the timing lock must mate with the closest conveyor gear tooth that has an arrow on it.

After you finish loading, check your slack point in the feed chute between the conveyor unit and chute bracket. More than 12 rounds showing means the slack point's high, less means it's low. Either way you'll have to adjust it by following step 28, page 82, of change 1 (Jan 69) to TM 9-2350-300-10 (Jul 68).

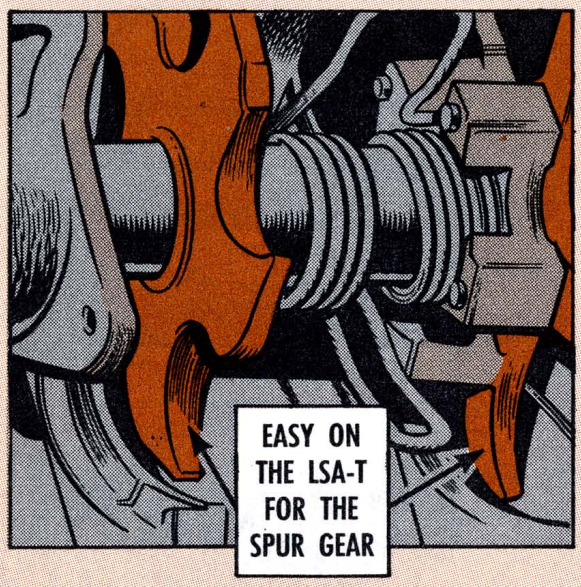




If you're going to carry just a partial load, be sure there're no empty conveyor elements feeding ammo from conveyor out up to the declutching feeder. The return element will naturally be empty.

The wrong number of conveyor elements may be the problem. The correct amount is 123 . . . count 'em . . . elements.

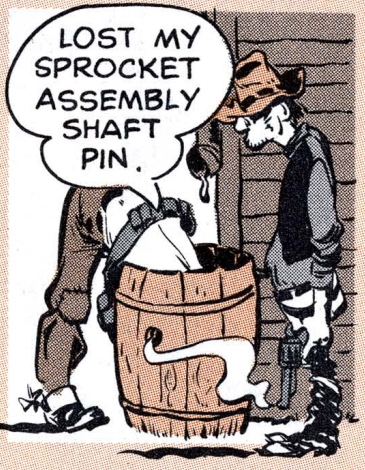
Learn to be suspicious if you get too many jams due to stretched elements. Although the stretched elements may be the actual cause, they might also be a clue to a gear backlash problem in the declutching feeder.



Too much LSA-T (with teflon) called for in Note 23 of LO 9-2350-300-10 (Dec 68) could cause the friction clutch inside the spur gear to slip, allowing the feeder to reverse itself. This reduced friction destroys the clutch action by letting the gear slip both ways—like a bearing.

If the proper lubricant is not available in an emergency, then ask permission to switch from LSA-T (RIAPD-688A) to LSA (MIL-L-46000A, Amend 1). You can pick up a 4-oz plastic bottle of LSA under FSN 9150-889-3522.

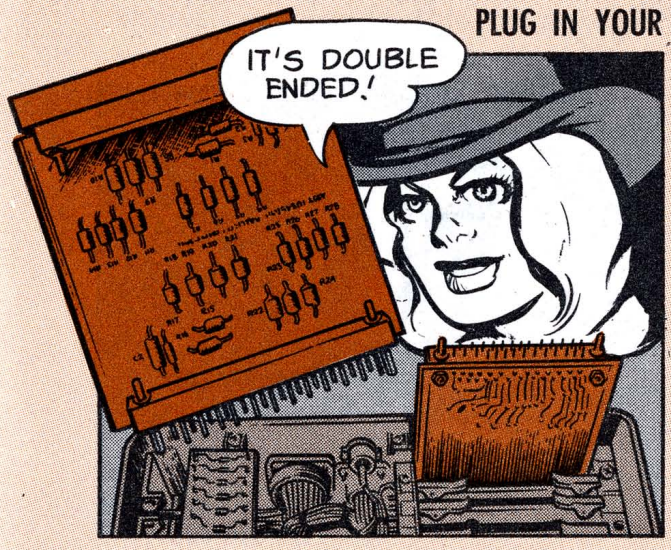
CONVEYOR PIN PROBLEM



Of all the pins used in this weapons system, perhaps the most important is the one located in the sprocket assembly shaft. If it comes out, the feed drive assembly will be out of time.

Be sure the conveyor unit is completely locked in place in the firing position, after loading ammo into the drum, or the detection micro switches won't be able to tell if the gunner is preparing to load or fire the weapon.

PLUG IN YOUR BALLISTICS



If you've just changed from M220 TP-T ammo to M246 HEIT-SD, or vice-versa, make certain the ballistics correction card inside your sight current generator matches the ballistics for the ammo you expect to fire next.

This is the only double-ended plug-in card in that generator. It has separate circuits, each wired to its own connector. Remember to replace the connector's protective cover whenever you reverse this card.

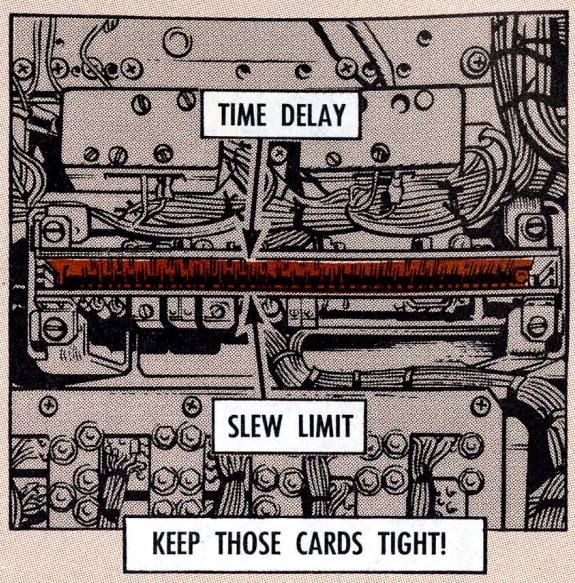
PS MORE

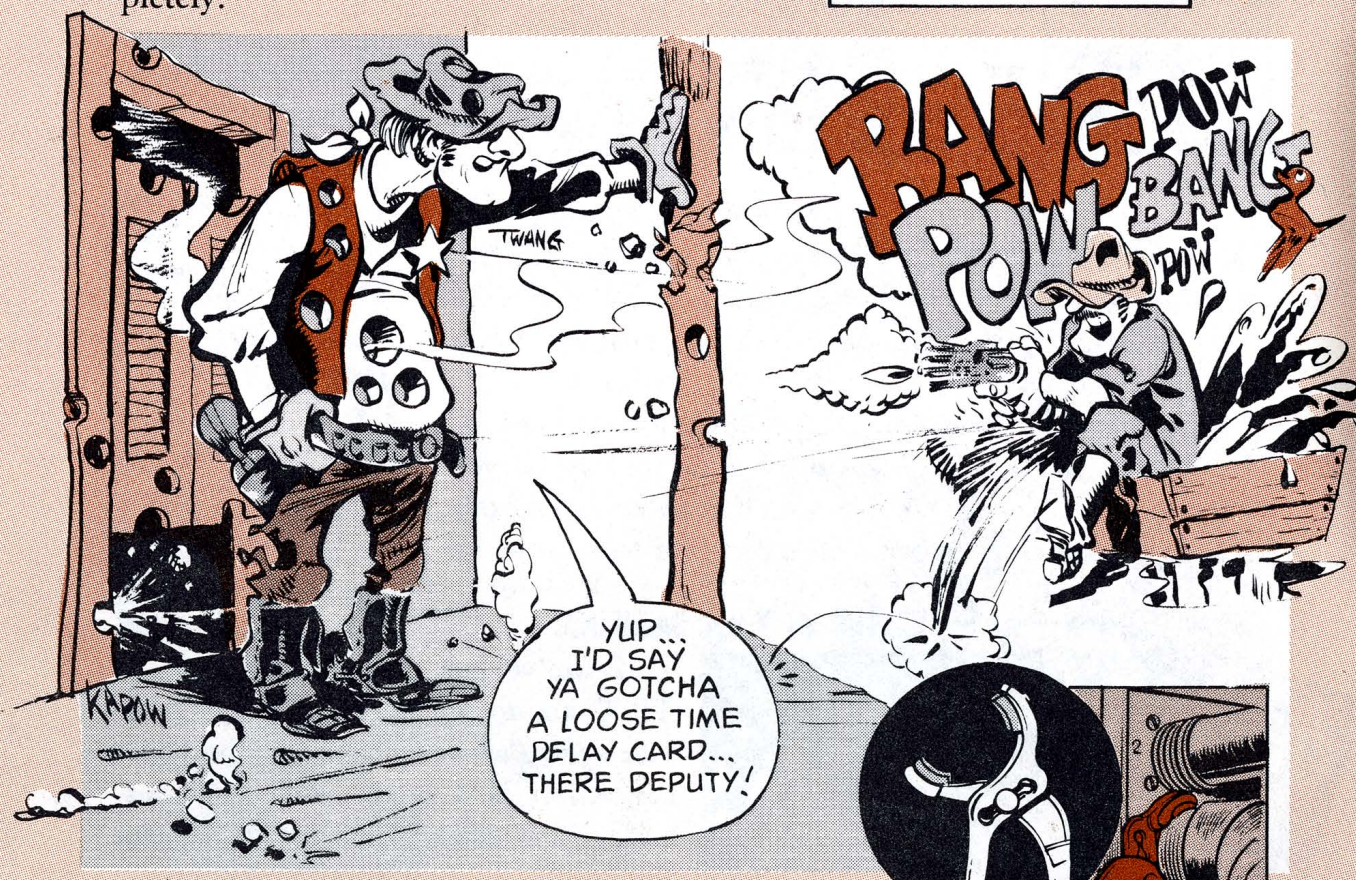
DB DOS AND DON'TS

Speaking about circuit cards, don't forget those 2 modules inside your distribution box (DB). If the screws holding them loosen, the cards will vibrate during firing.

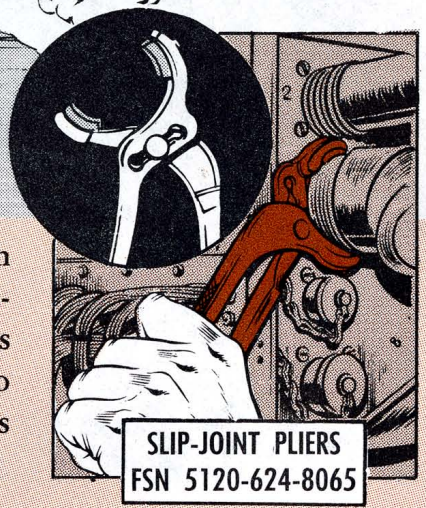
A loose time delay card affects the length of each burst. This will cause erratic bursts in which the weapon fires some rounds, but throws out others unused.

A loose slew limit card will cause slewing difficulties. The cannon won't slew at all if this circuit cuts out completely.



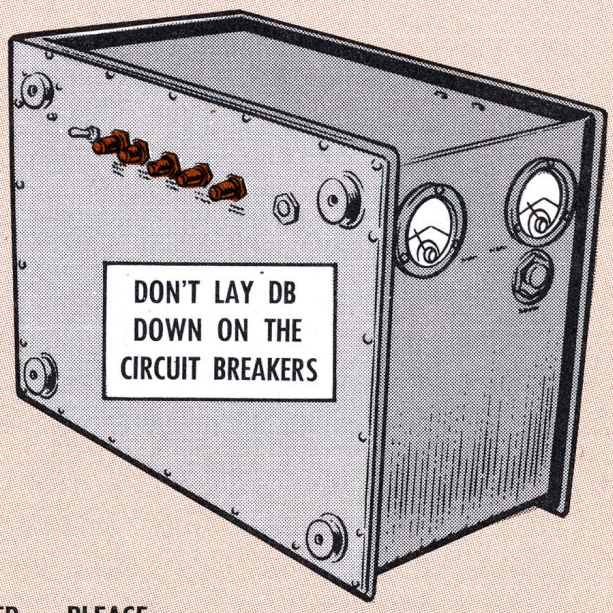


There are areas on the outside of this DB which are just as vulnerable to careless handling. For instance, you can damage these cable connectors unless you use a conduit type pair of slip-joint pliers to install and remove them. This tool is identified as FSN 5120-624-8065.



Any time you move this DB, you take a chance on damaging the exposed circuit breakers on the back. This can happen as a result of laying the box on its backside when you remove it for maintenance. Or you might accidentally bump them up against the turret support when you're putting the box back in place.

Too much sliding around, or tripping over it with careless feet, may also bust off some of the 22 small cover screws, allowing dust to enter the box.



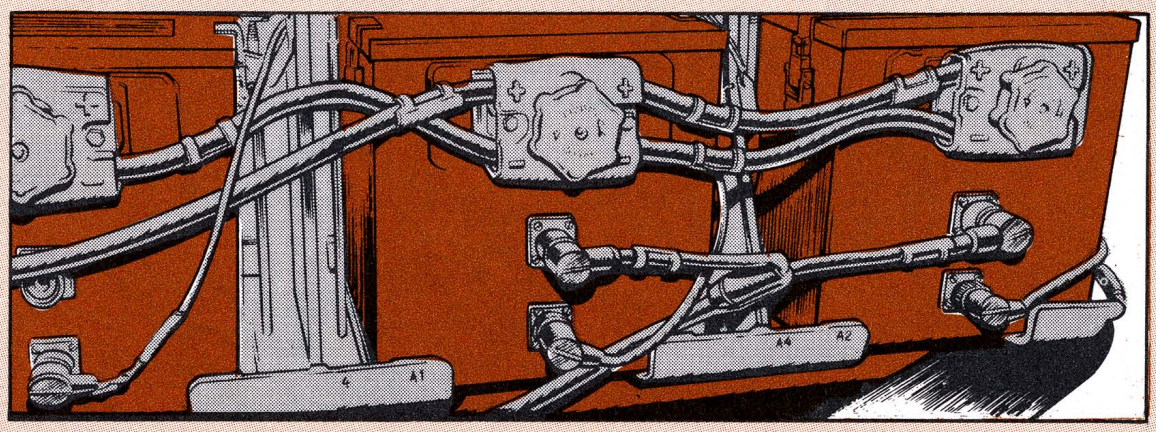
NO FOOTPOWER — PLEASE

Talking about feet, keep them off the terminals of those nickel-cadmium batteries. This footpower position may help slew the turret when the juice is off, but it sure doesn't do anything good for the terminals.

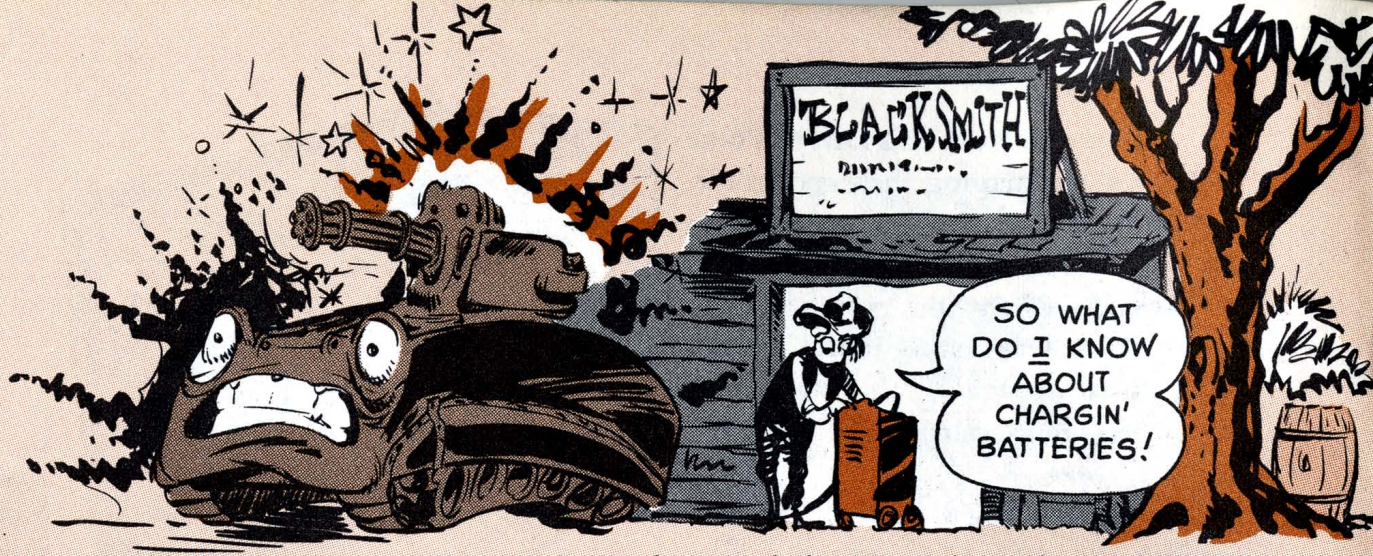
THERE'S A DIFFERENCE

Your Vulcan's 5 batteries include 3 nickel-cadmiums that are definitely different from the lead-acid batteries that power your XM741 chassis.

Since the 3 nickel-cadmium batteries juice the weapons system, they discharge rapidly during a fire fight. Although the chassis generator recharges all 5 batteries when the vehicle's operating, it doesn't do near enough recharging to make up for this extra heavy drain on the nickel-cadmiums. So when the vehicle engine's not running use your 1.5-KW APU to charge the battery. It'll keep you in business.

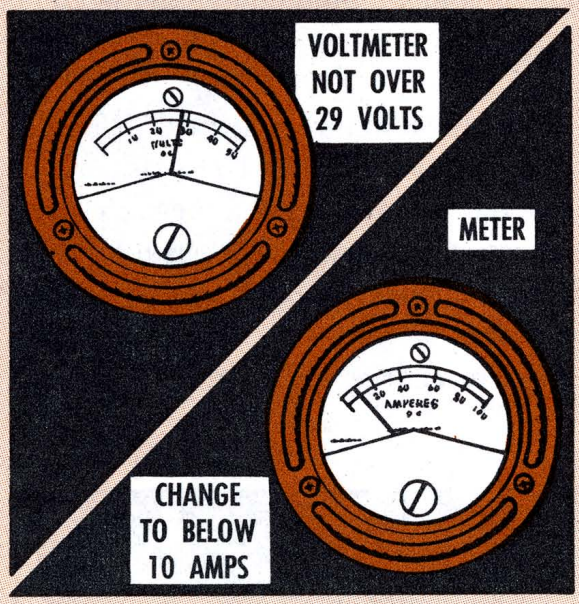


PS MORE

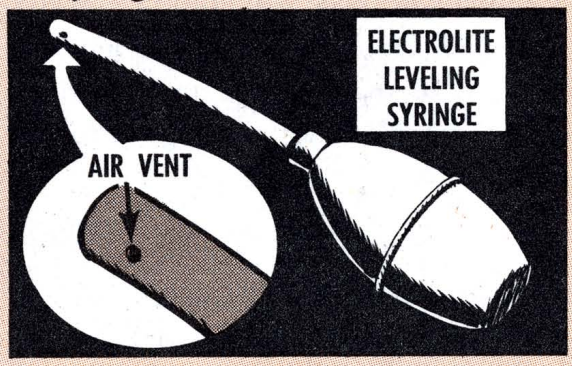


Be sure you don't add pure distilled water to your nickel-cadmium batteries until **after** they're fully charged. This is just opposite to how you add water to lead-acid batteries.

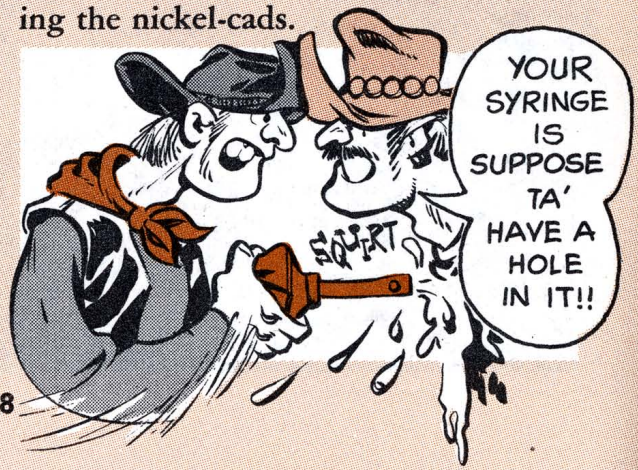
Some of the 19 cells in each of the nickel-cadmium batteries will be less discharged than others. So you've got to be careful about damaging these cells by putting over 29 volts into them during charging. Just keep watching that voltmeter on the DB. And continue charging until the ammeter reads below 10 amps.



Let the batteries rest for awhile after charging before you check the levels. The electrolyte should be just above the top of the plates in each cell. It's too low if you can't draw any into the syringe. That's because this special nickel-cadmium syringe has a hole just above the tube end that lets air into the syringe if the level's too low.



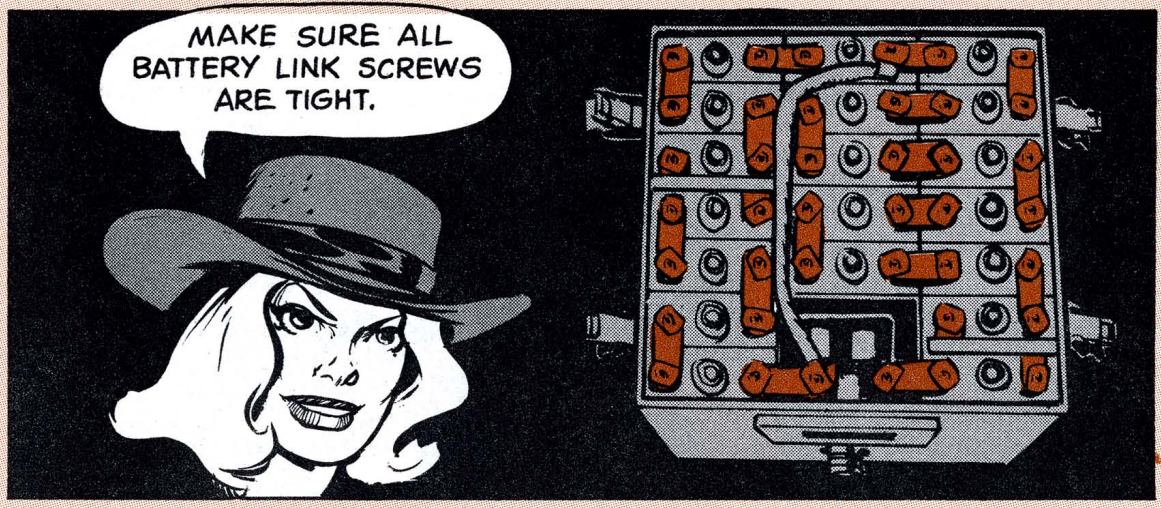
Other than the air hole, syringes for both type batteries look alike . . . except that using a syringe contaminated with lead-acid battery electrolyte will ruin a nickel-cadmium battery. That is why you're not even allowed to let the fumes from an open lead-acid battery drift through the chassis while you're servicing the nickel-cads.



It's better to borrow another gun crew's nickel-cadmium syringe rather than risk contamination from a lead-acid battery. Flush the syringe with water after you use it (distilled water if you have it). Be sure it's dry . . . if a few drops get on battery connections, that's bad. Use only the syringe that came with the batteries.

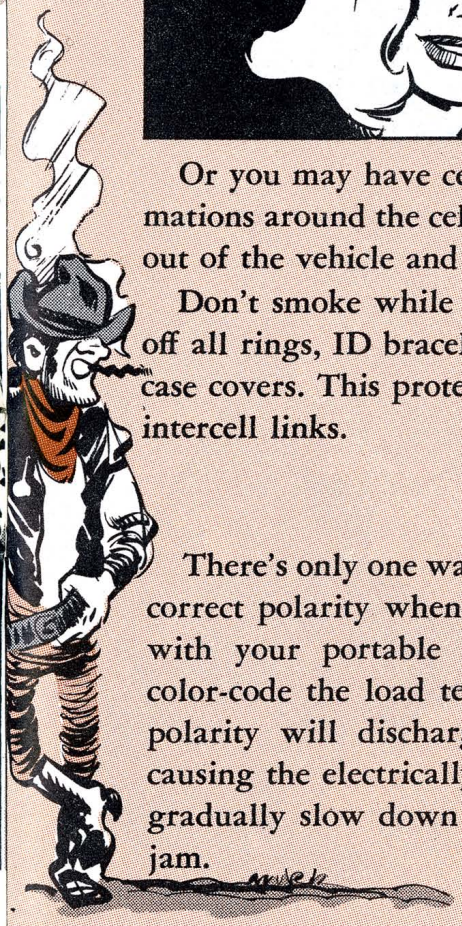
This level check should be performed weekly unless the weapon has been fired more recently. Normally, you should not lose much electrolyte, unless your chassis voltage regulator is set too high.

Correct regulator setting is 28.7 to 28.8 volts (you'll have to get DS to check this). If this setting climbs higher than 29 volts, the regulator may be boiling off the electrolyte in your nickel-cadmium batteries to the point where the level gets low enough to cause battery overheating.



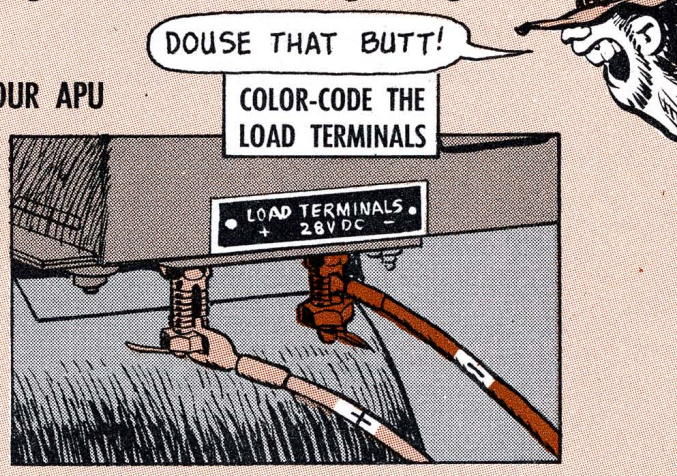
Or you may have cell leakage, which you can spot by the white powdery formations around the cell vents. Best way to treat this is to take the leaking battery out of the vehicle and flush low pressure water between all the cells.

Don't smoke while servicing nickel-cadmium batteries and remember to take off all rings, ID bracelets or metal watch bands before you remove the battery case covers. This protects you from igniting the fumes or causing arcing at the intercell links.



COLOR YOUR APU

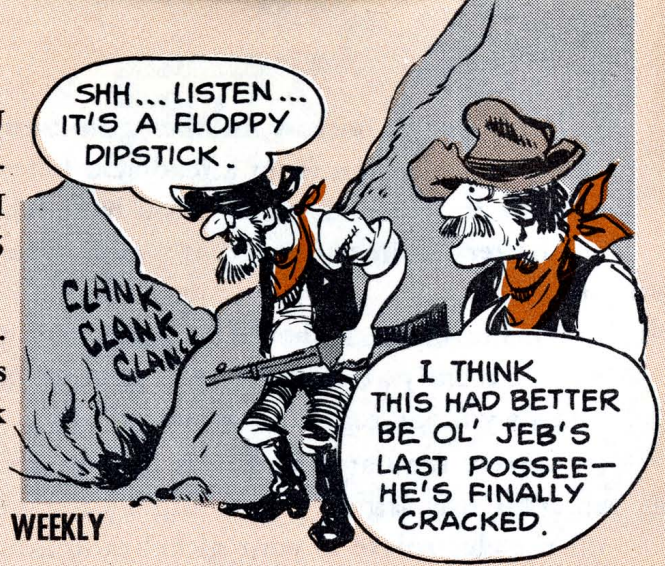
There's only one way to be certain of correct polarity when you're charging with your portable APU. That's to color-code the load terminals. Reverse polarity will discharge the batteries, causing the electrically-fired cannon to gradually slow down to where it will jam.



PS MORE

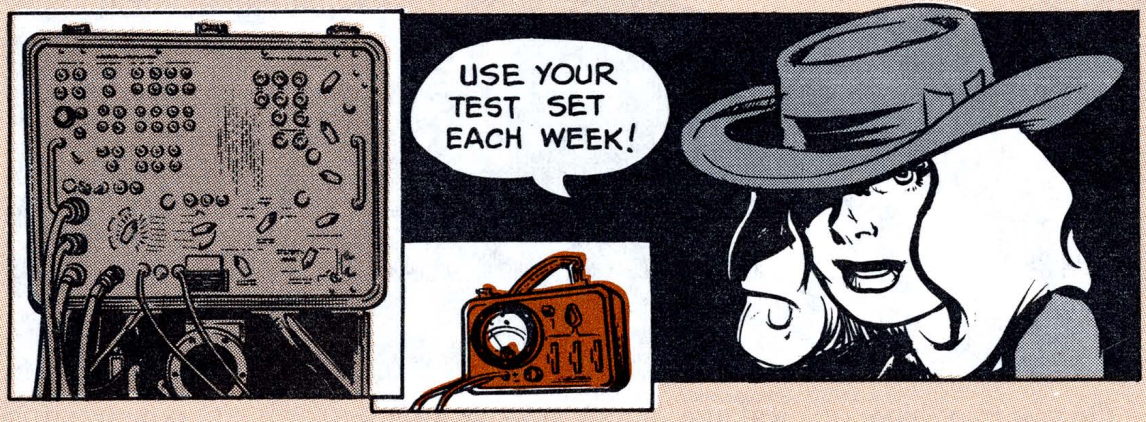
You can review the proper APU hookup with the generator cable terminals by checking para 25 in FM 44-5 (Aug 68) and TM 5-6115-323-15 (Aug 65).

Also listen for a noisy APU dipstick. This means the vehicle's vibration has popped it loose, letting the dipstick flop around.



TEST WEEKLY

Drag out your AN/MWM-2 organizational maintenance test set each week at the same time you make these battery checks. That way you can test all parts of your weapon system together. But be extra careful to connect and disconnect your J1 through J4 test cables in proper sequence. These test cables should be

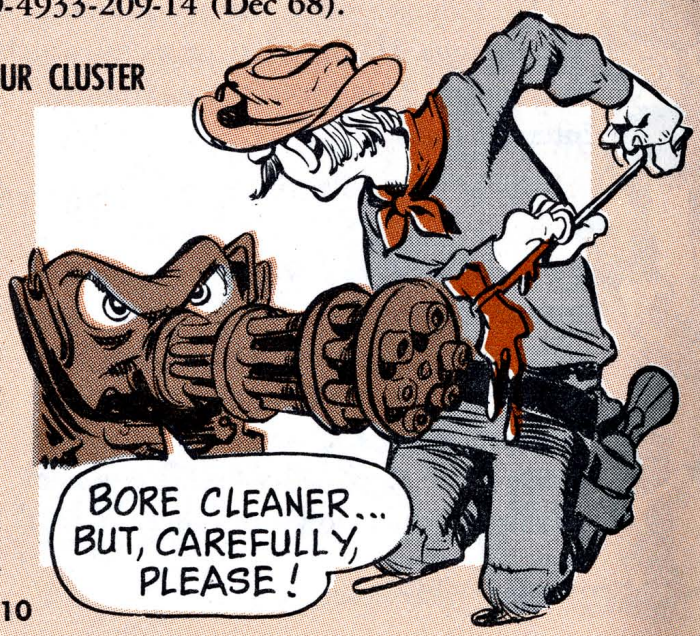


plugged into the test set first to prevent possible arcing between the test set and live cables. Forget about running the servo amplifier test with this set. Your backup info for this test set is in TM 9-4933-209-14 (Dec 68).

CLEAN YOUR CLUSTER

Your gun barrels also need regular treatment on the same schedule—either right after each fire mission or once a week when they haven't been fired. When cleaning barrels, use your staff and bore brush saturated in solvent cleaning compound (CR). Then wring out the same rag and wipe each barrel dry of the solvent and gunk.

Now apply a light coat of PL-special to the barrels, mid-barrel clamp and

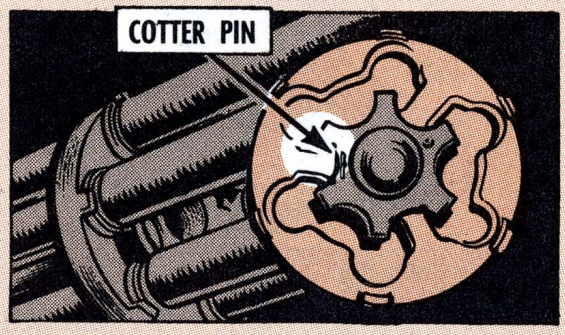


muzzle clamp to prevent rust . . . wiping off the excess with a dry cloth. Removing this excess keeps the gun-barrel cluster from throwing up an oil smoke screen around the sight during the first burst or 2.

Use the bore cleaner carefully so you don't let the cleaner and debris foul up the rotor mechanism.

Also, don't confuse the 2 separate schedules for rounds-cycled-maintenance and rounds-fired-maintenance. You only replace the gun barrel cluster after 72,000 rounds have been fired according to your log record. The limit of 72,000 pounds is in table 2-2 of Ch 3 (7 May 70) to TM 9-2350-300-20.

Another thing . . . there's absolutely no way the mid-barrel clamp can jump out of the locking disc unless you plain forget to use a cotter pin each time you install this clamp. And some do forget.



STOW THE LEADS

Disconnected firing leads should not be allowed to just hang loose. That's how they get tangled up and smashed by the gun mechanism during exercising of the system.

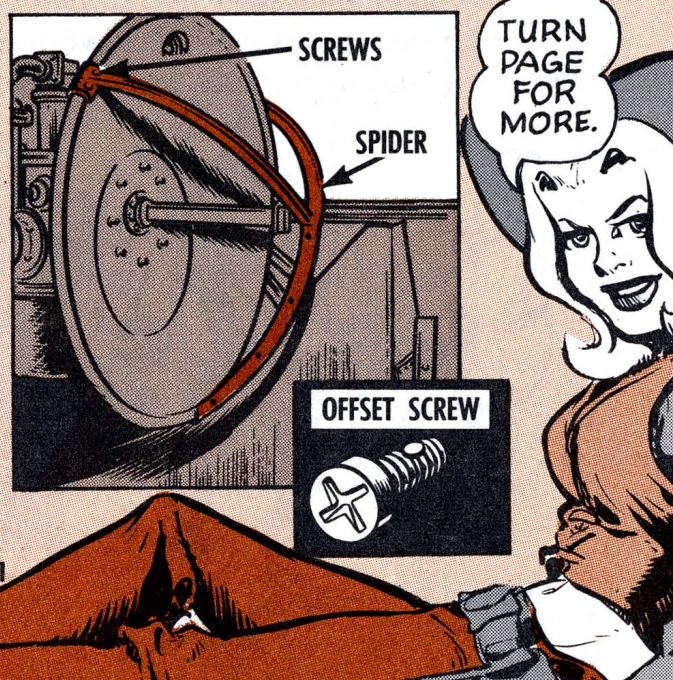
BABY THAT RADAR

Flying hatches and crew members searching for hand grips can pull apart the spider portion of that AN/VPS-2 radar. The special offset cross screws used on this dishpan antenna require a cross screwdriver, FSN 5120-674-9215, recently authorized for your tool kit.

- Radar and water don't mix. Keep that water hose away from radar boxes and the antenna feed horn. Air vents won't repel a direct stream of water.
- Water in the boxes or wave guide is bad news.

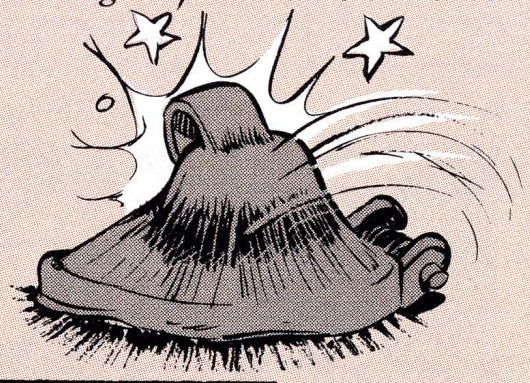
Stow your radar antenna before moving the vehicle.

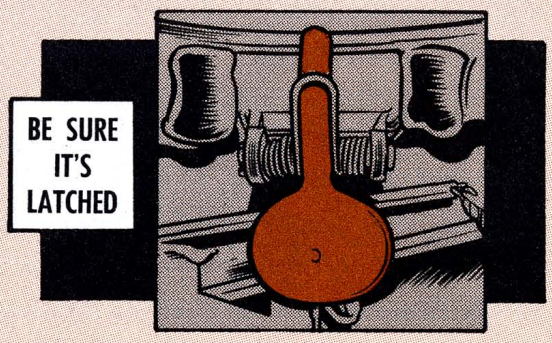
- Never reset and overload the radar while radiating.
- Never operate the radar very long with lids of units 2 or 5 open.
- Improper air flow will result in "hot spots" and damage.

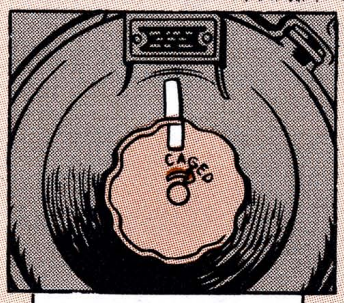


OUCH!

Flying hatches can be dangerous to both man and weapon. An unhooked driver's hatch cover left open for traveling can flip forward in a sudden stop with enough force to drive the driver out of his skull.







DON'T OVERTIGHTEN

CAGE IT!

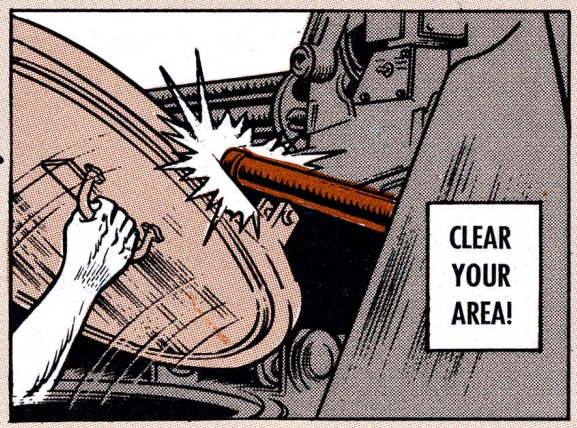
An uncaged sight leaves your loose gyro tumbling about during travel. So remember to follow the arrow on the mechanical locking knob before you start. On the other hand, overtightening of this knob will jam the gimbals into the gyro, causing just as much damage.

CLEAR!

Any gunner who forgets to "clear" his area before swinging his turret is a menace to the neighborhood. A roving turret, with the cannon fully depressed, can sweep loose objects or clout anyone standing on the open ramp—which should have been closed before slewing, anyway.

Be positive the turret system brakes are engaged before you move out or else you let that free-wheeling gun damage its own gear system. Besides, a careless gun traveling slaunchwise leaves notches in doors, buildings and telephone poles.

Also try to remember that turnaround maneuvers and turret slew checks do not turn out successfully in crowded motor parks unless you put some distance between your own chassis and other vehicles.



PART OF THE FAMILY

This XM741 chassis is part of the basic M113A1 APC family of vehicles So everything about the automotive system should be pretty near the same, except for the suspension lockout system connected into the ramp's hydraulic valve setup.

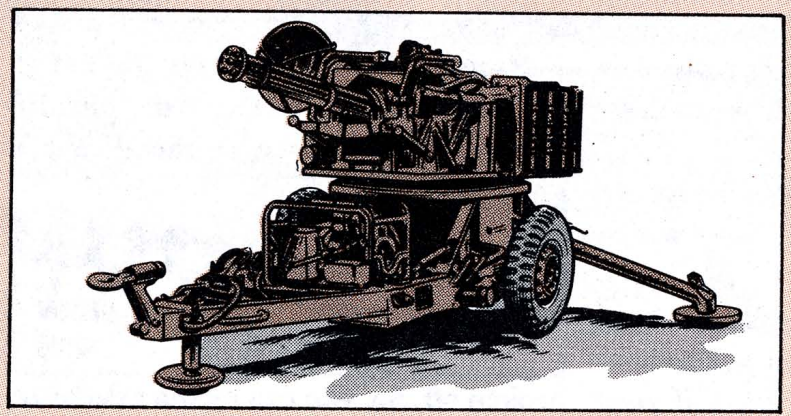
You can help protect this lockout system from damage by following the cautions in para 2-11 of TM 9-2350-300-10 (Jul 68), which covers operating instructions for the chassis. First, bring the chassis to a complete stop—on level ground, if possible—before using the suspension lockout. Second, keep the lockout control handle in RETRACT position whenever it's not being used.

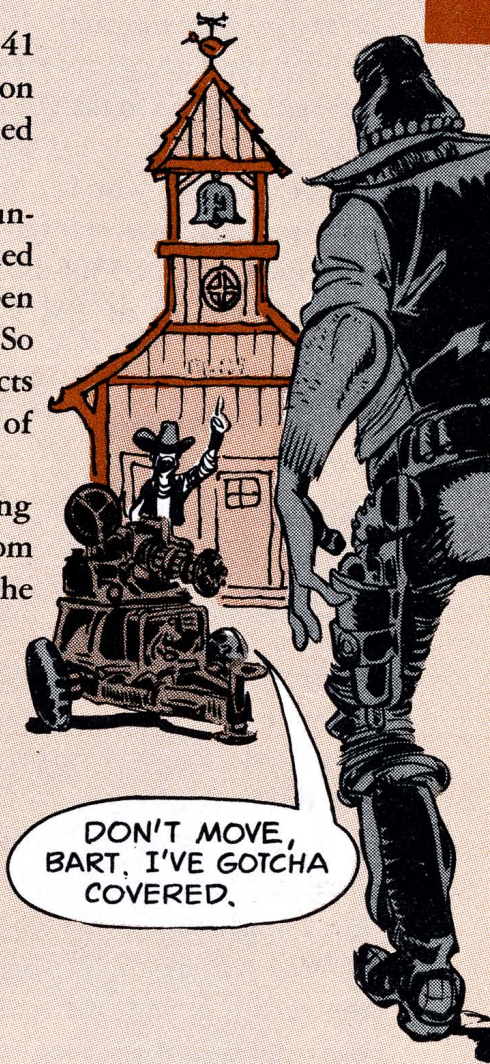
THE TOWED VERSION

Not every Vulcan cannon is mounted on an XM741 vehicle chassis. There's also an XM167 towed version of the Vulcan that can be hauled around by a wheeled vehicle.

Since this is an open cockpit arrangement for the gunner, the standard aircraft cockpit light has been attached to the inside of the turret for night use. But being open also lets moisture rust the contacts inside this light. So the only way to keep it working is to daub the contacts with a protective silicone treatment or place a cover of some sort over it.

Another vulnerable spot is the turret slip ring. Storing garbage under the turret or letting the buckle from the gunner's harness slide under there will jam the turret mechanism.

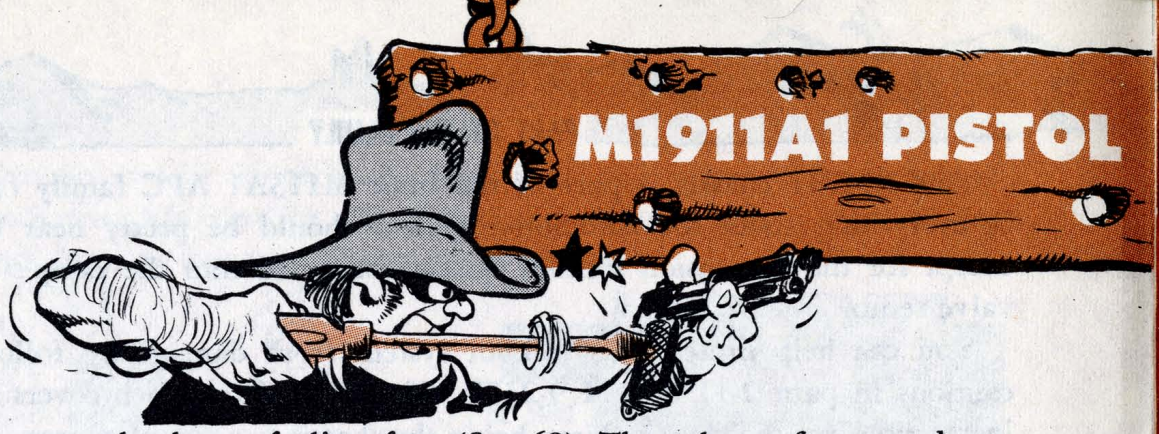




Immediate recharging of the nickel-cadmium batteries after firing is even more of a must for the towed Vulcan, since there's no automotive charging system to help do part of the APU's work.

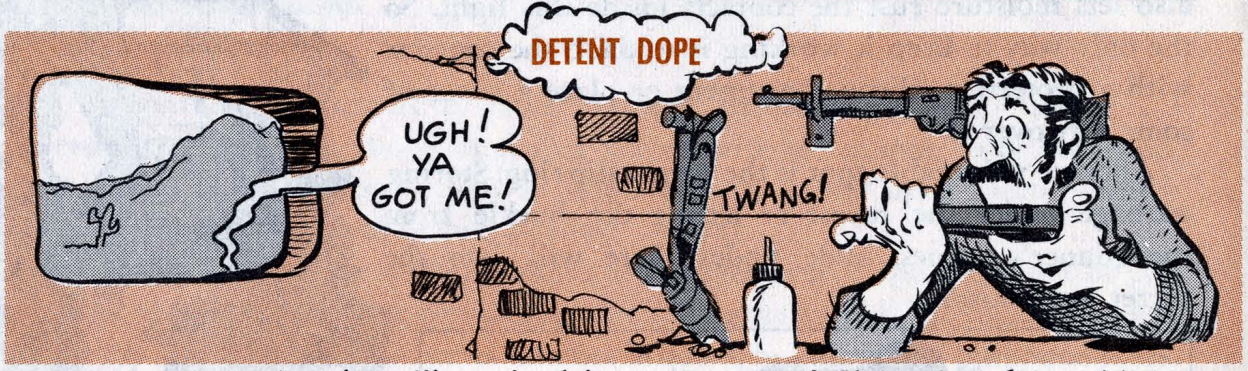
And lack of exercise may let the O-ring seal leak inside the hand operated hydraulic pump. Try to remember this during your weekly service on the weapon.

END



No armorer who has a feeling for M1911A1 caliber .45 automatic pistols will accept substitute screws for the plastic hand grips on his unit's weapons. Oversize screws and heavy handed screwdrivers are guaranteed to strip the internal threads in the stock screw bushings.

The armorer who is a real craftsman will replace lost screws with screws identified as FSN 5305-601-9023 in the repair parts list of TM 9-1005-211-12 (Sep 68). They always fit . . . and save you the trouble of turning over weapons to maintenance support for bushing replacements.



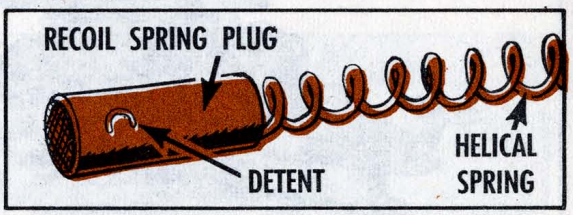
Your M1911A1 .45 caliber pistol is supposed to be a dangerous weapon — but not to you!

It can be, though, if the recoil spring plug detent gets broken off — which can happen real easy.

With no detent in the plug to hold the recoil spring, the spring can shoot the plug out with a lot of force if your finger slips when you assemble or disassemble the pistol. So be careful when you do it.

If the detent is OK you won't have this problem.

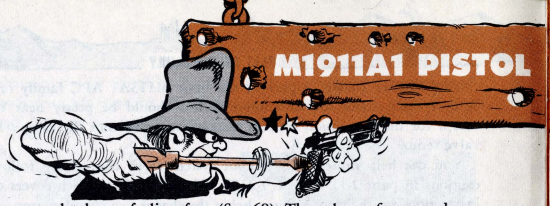
Page 3 of Ch 1 (Jun 69) to TM 9-1005-211-12 (Sep 68) says the pistol is still serviceable even if the detent is



broken off. So, you can't get a new plug.

What to do?

Just be aware of the problem and leave plenty of clear space for the plug to fly in if your finger slips when you're working on the spring.



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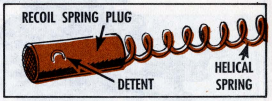

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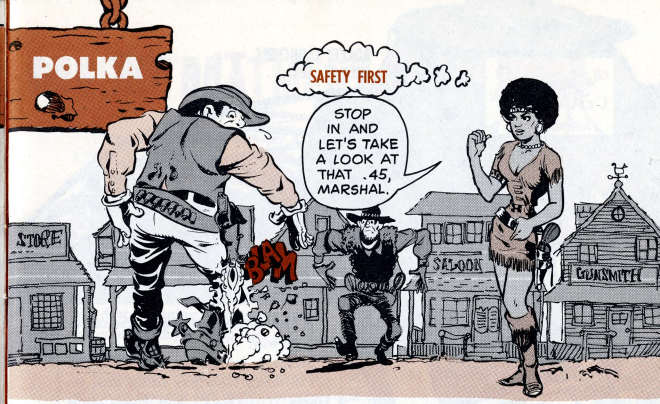
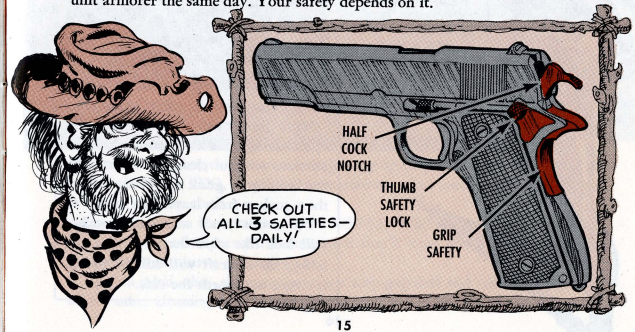


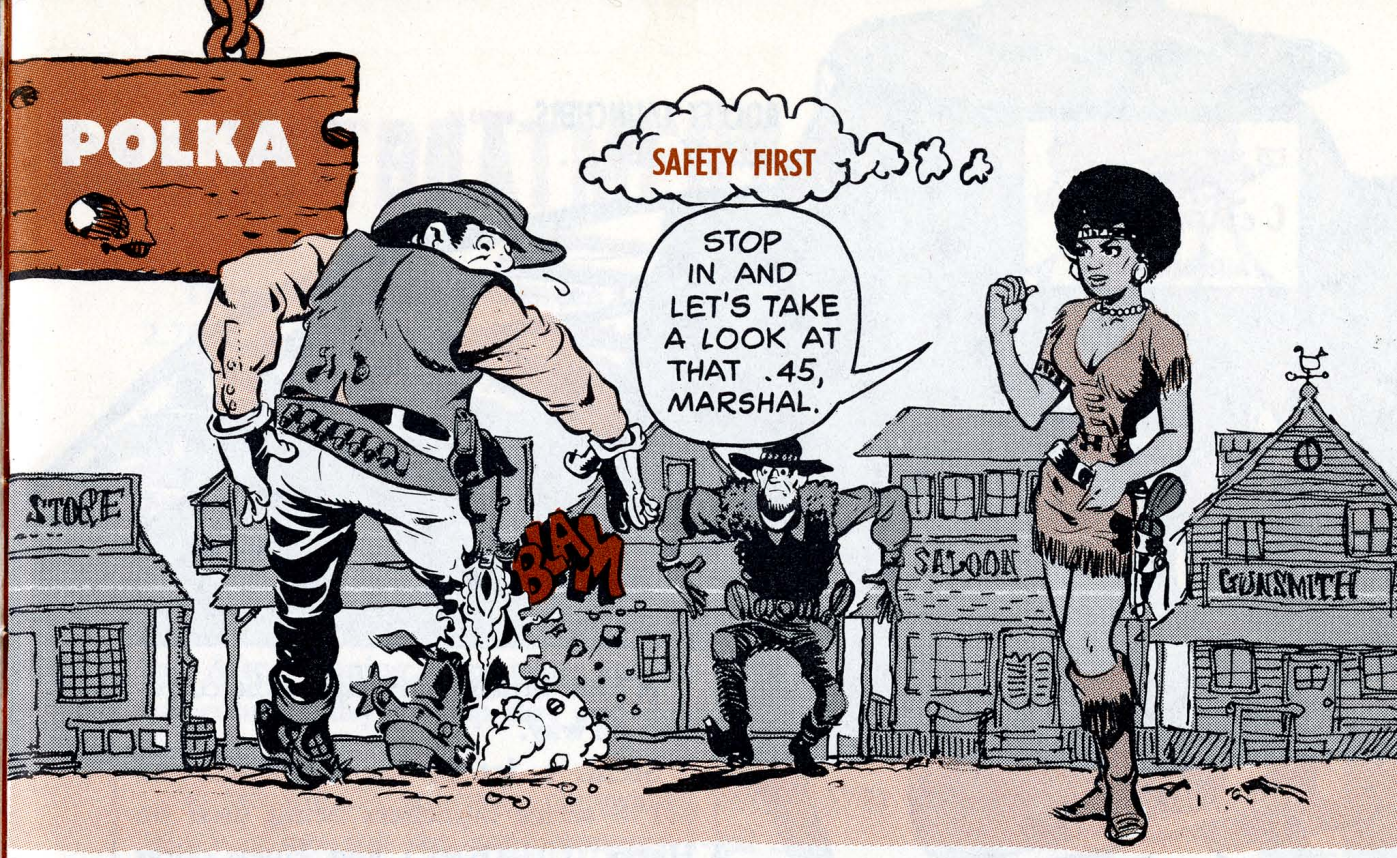
While most small arms are satisfied with just 1 safety, your caliber .45 automatic pistol plays **safe** 3 ways . . . thumb safety lock — grip safety — half-cock notch.

Too often, these are neglected.

But all 3 of these safeties must be checked daily for your weapon to be fully safe. That's why the step-by-step test for each safety check is spelled out in both words and pictures under Table 3-2 of your TM 9-1005-211-12 (Sep 68).

If your favorite .45 flunks any of these daily tests, hand the weapon to your unit armorer the same day. Your safety depends on it.





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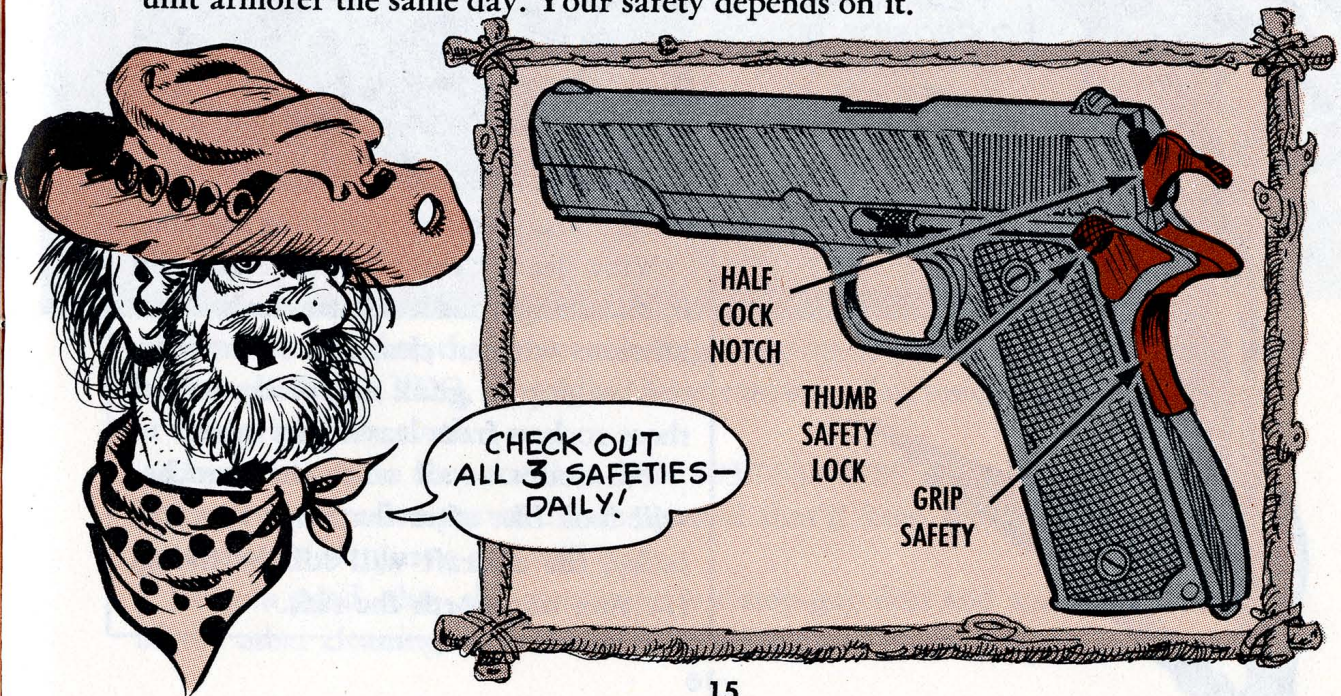


ROCKET LAUNCHERS NEED IT, TOO...

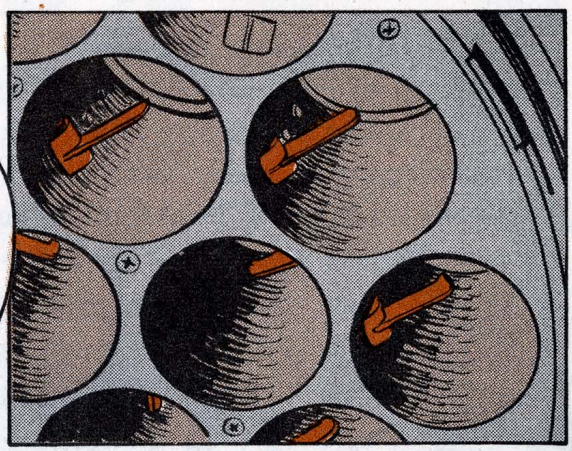
The CR and

AIR MOBILITY

THE LAST THING YOU WANT IS A DELAYED ROUND... IT CAN HAPPEN IF CORROSION BUILDS EITHER IN THE TUBES OR ON THE CONTACT POINTS!

A bore brush a day makes the corrosion go way.

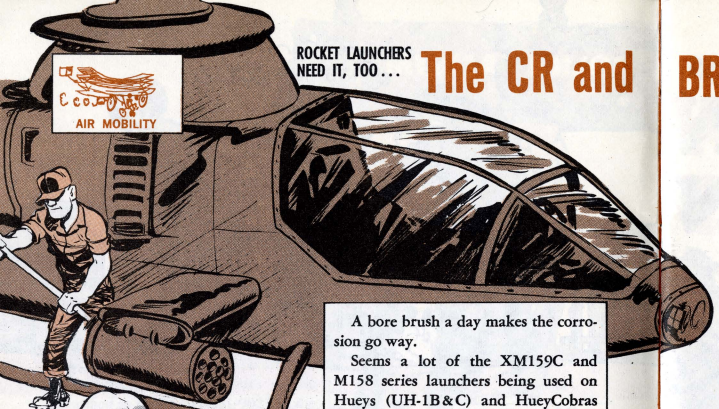
Seems a lot of the XM159C and M158 series launchers being used on Hueys (UH-1B&C) and HueyCobras (AH-1G) pick up dirt and corrosion in the firing tubes pretty fast. Same goes



for the firing contact points at the rear.

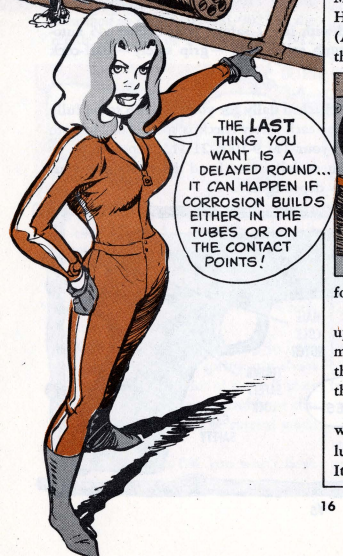
This deadly combination can build up to a dangerous level after only a few missions without cleaning. Eventually, the buildup of gunk may delay one of those rockets from leaving its tube.

No doubt at all what the launcher will look like after that. But if you're lucky, the aircraft will still be flying. It's sure not worth the risk.



ROCKET LAUNCHERS NEED IT, TOO . . .

The CR and BRUSH TREATMENT



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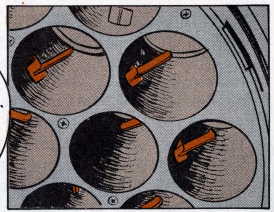

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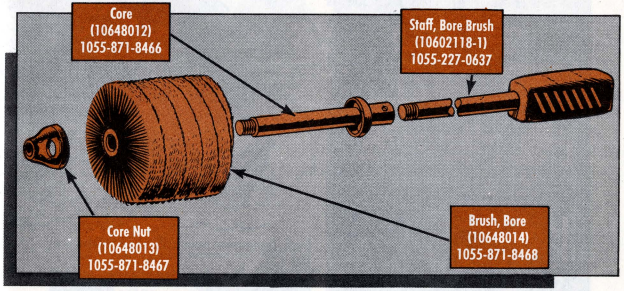
There's no difference between a dirty 2.75-in rocket launcher firing tube and a dirty rifle bore. They both need regular doses of bore cleaner (CR) applied with the end of a good stiff bore brush . . . in same manner. It's just the size of the brush you use that's different.

And don't forget the rocket firing contacts . . . they get the CR treatment too. After cleaning, wipe tubes and firing contacts dry to stop dirt and dust build-up.

So ask for CR (cleaning compound, MIL-C-372) with FSN 6850-224-6663, which brings you the large economy 1-gal can.

Then put your king-size bore brush assembly together with these components:



One more word on the igniter cleaning hang-up. If you've gotta reload and get back to the fracus PDQ, try to give those contacts a fast touch-up job with crocus, or fine grit emery cloth.

If you've got no time for that, FSN 8030-838-7789 gets you a 16-oz pressurized can of corrosion preventive compound that'll keep those igniters protected for a short time. Just a dab will do it.

Keep in mind, tho, this compound is a stop-gap deal and you make with one of the other cleaning deals ASAP after taking care of the gooners in the grass.

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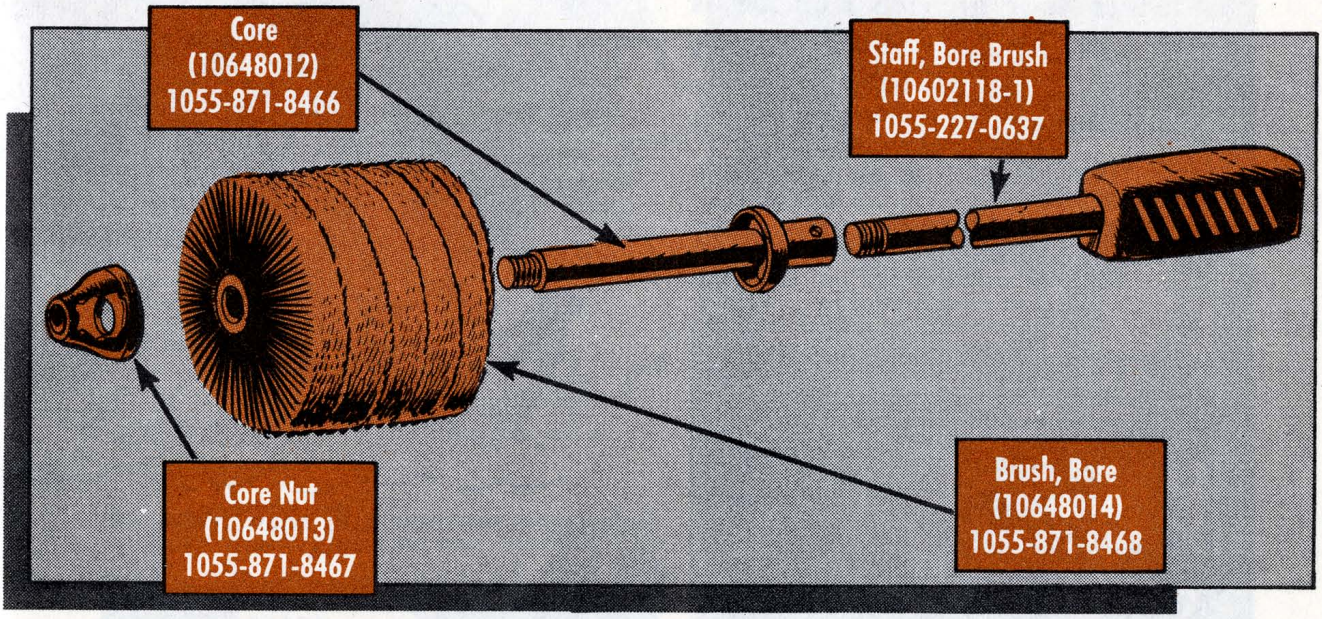

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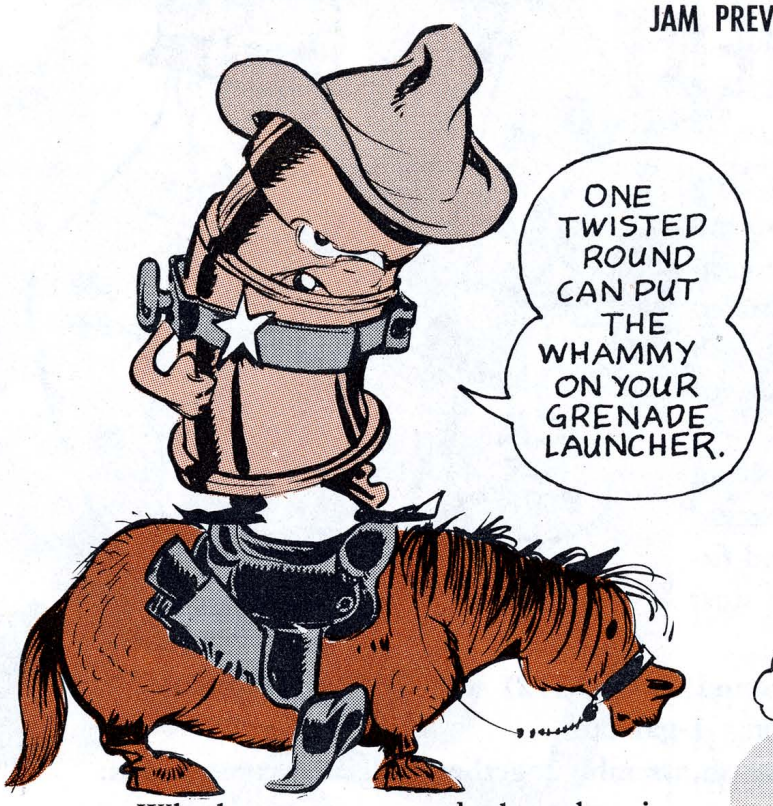
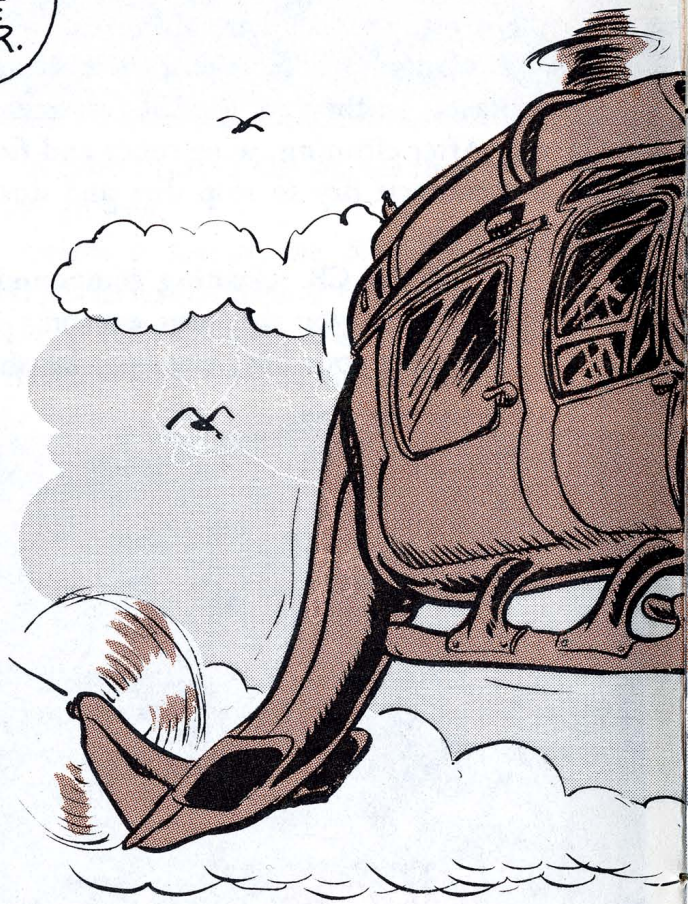
JAM PREVENTER FOR . . . **M75 and**

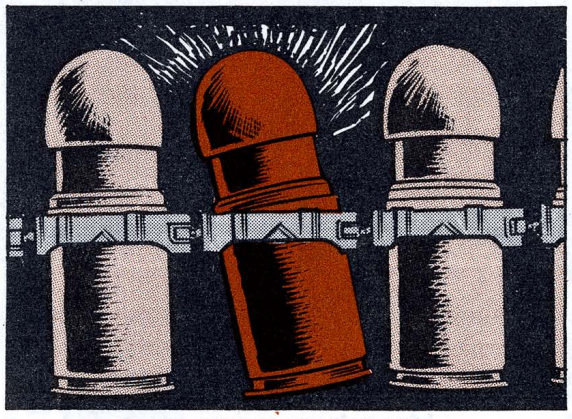
GREN LAUN





Whether your grenade launcher is the M75 or the XM129, jamming is something you can do without.

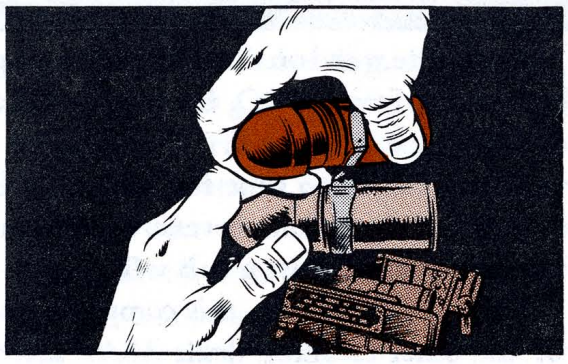
If a cartridge is twisted in its link it is more likely to jam the launcher. So



TWISTED CARTRIDGE

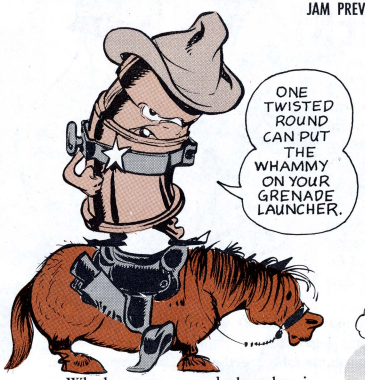
carefully inspect the belt and make sure every cartridge is lined up right before you load the linked cartridges into the launcher feed system.

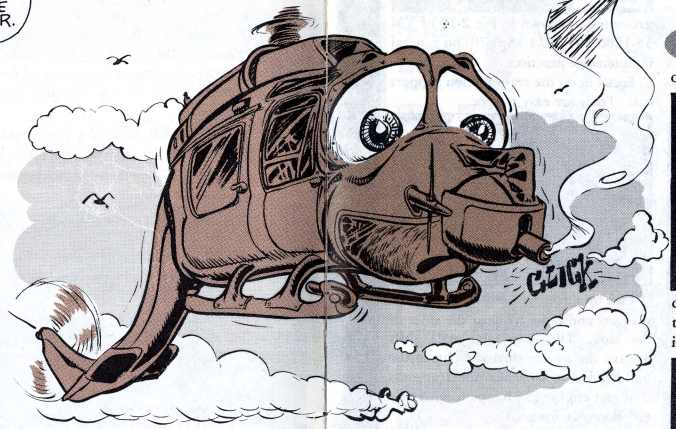
If you find a cartridge that is twisted in its link, disconnect that cartridge and link from the belt and then reconnect the belt.



JAM PREVENTER FOR... **M75 and XM129**

GRENADE LAUNCHER





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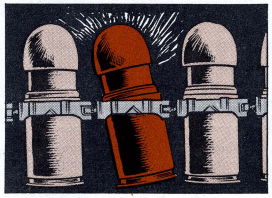

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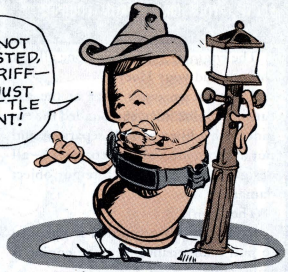
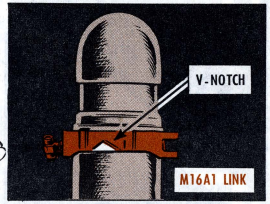


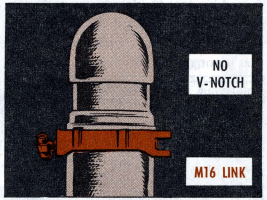
Both the high-explosive 40-MM cartridge M384 and the practice 40-MM cartridge M385 come belted with either M16 or M16A1 links.

The M16A1 link belts can be used with either the M75 or the XM129 launcher, **but** cartridges belted with M16 links can be used **only** in the M75 launcher.

To tell whether the link is an M16 or an M16A1, look for a little V-notch



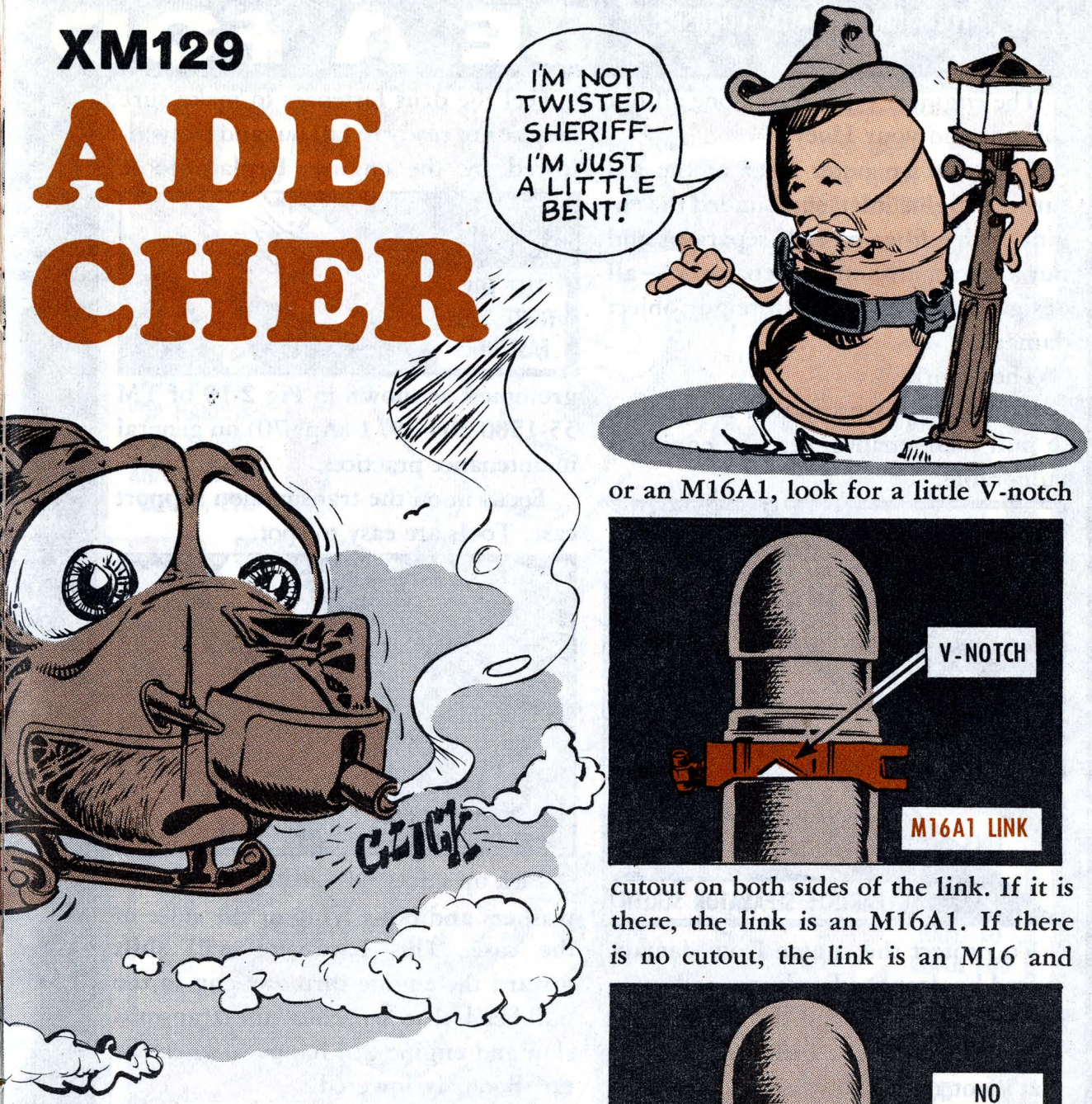
cutout on both sides of the link. If it is there, the link is an M16A1. If there is no cutout, the link is an M16 and



you use that belt only with the M75 launcher.

All this good stuff and more is in TB 9-1310-247-12 (17 Jul 70).

XM129 ADE CHER



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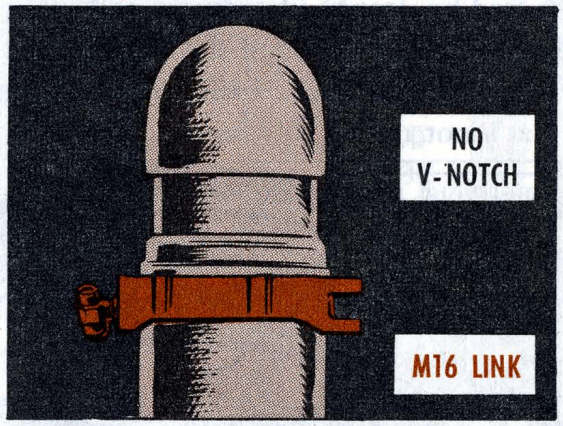

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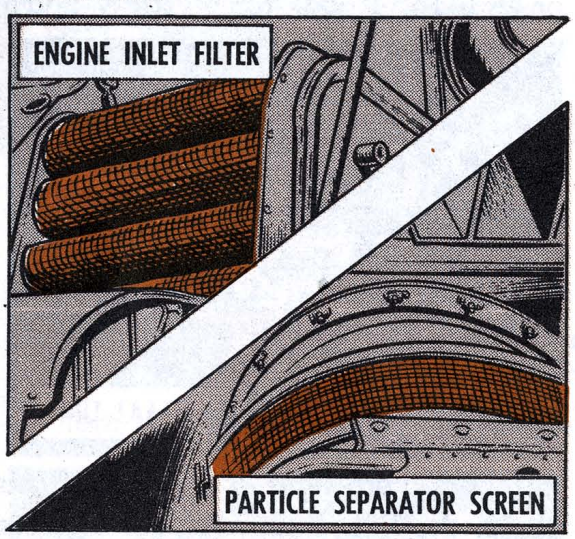
BE A FOD

The engineer types have gone all-out for you and your Huey.

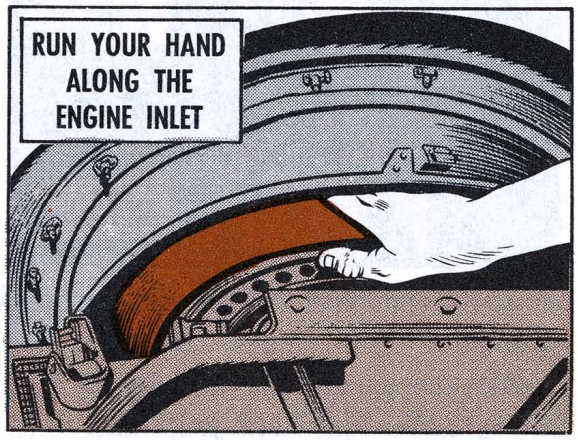
They put an outer filter at the gas turbine engine inlet, surrounded the engine with a filter particle separator and put a screen around the separator — all designed to head-off foreign object damage.

They work.

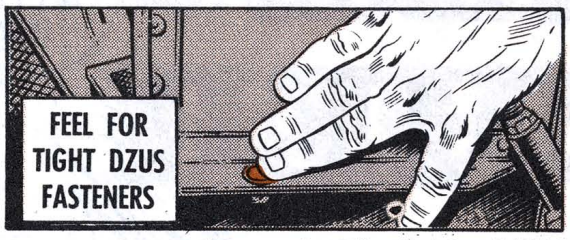
When all this protection is removed to pull maintenance, tho, the engine is vulnerable.



To protect the engine from damage caused by dropped hardware and tools, run your mitts around the engine inlet and over the deck. Pick up anything that's not nailed down.



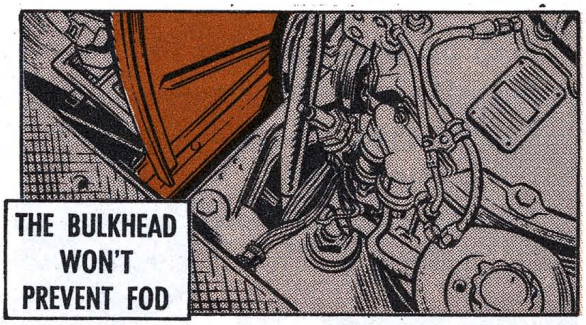
Feel the dzus fasteners to make sure they're not ready to fall out and be swallowed by the engine. Replace loose



grommets as shown in Fig 2-19 of TM 55-1500 204-25/1 (Apr 70) on general maintenance practices.

Focus in on the transmission support case. Tools are easy to spot.

Pick up safety wire, cotter keys, nuts, washers and bolts lying at the sides of the case. This hardware will shift toward the engine thru any gap in the bulkhead that separates the transmission and engine . . . happens when the tail boom is lowered.



Then when the engine is cranked up, like for a cleaning chore — zap! Another engine bites the dust.

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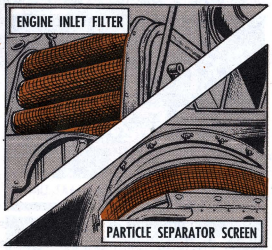

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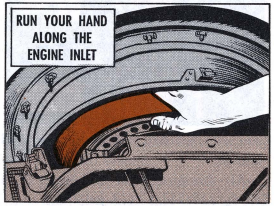

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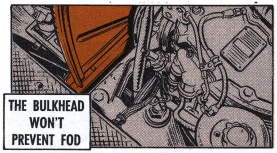

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FOD FIGHTER

Be a FOD fighter by policing up the transmission and engine inlet areas. You wouldn't want to be your bird's worst enemy, now would you?

FIGHTER

Be a FOD fighter by policing up the transmission and engine inlet areas. You wouldn't want to be your bird's worst enemy, now would you?

MINIMUM — NO MAXIMUM

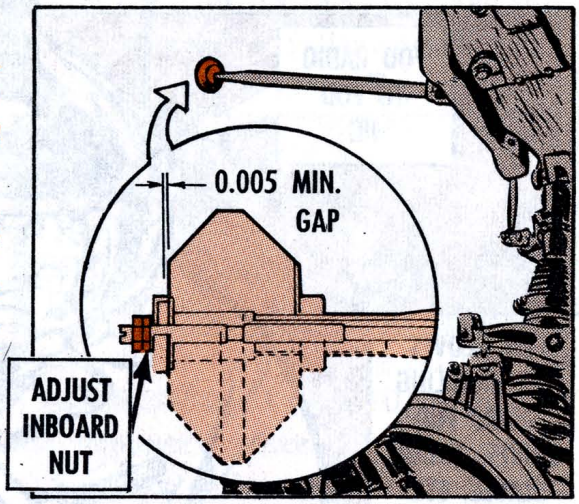
Dear Windy,

The stabilizer bar on our Huey was modified according to MWO 55-1500-206-30/2 (Oct 68) to use cables in place of steel rods.

The new setup calls for a minimum clearance between the retainer and weight of 0.005 inch but there is no maximum given.

Right now the gap is 0.020-0.035 inch, and the cables are easy to turn. Shouldn't there be a maximum gap?

SP 6 J. P. E.



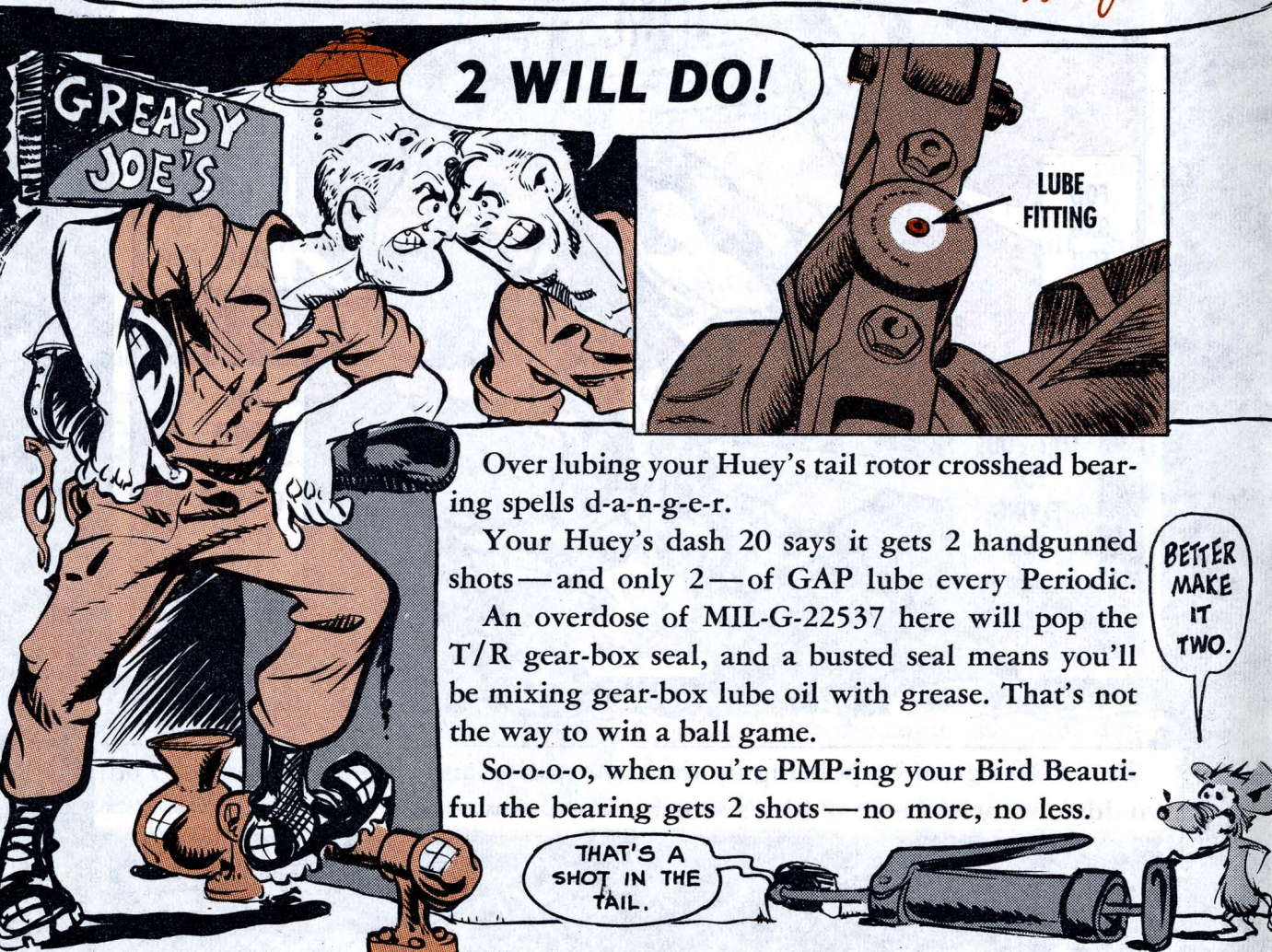
Dear Specialist J.P.E.,

Nosire-e-e-e! No maximum figure is given since it's not critical. The rods were preloaded, whereas the cables are not.

The point to ponder is whether the cables are so loose that vibration causes them to chafe on the stabilizer bar tube.

If you and your maintenance officer believe the cables are too loose, adjust the weight retaining nuts to get the minimum gap.

Windy



Over lubing your Huey's tail rotor crosshead bearing spells d-a-n-g-e-r.

Your Huey's dash 20 says it gets 2 handgunned shots—and only 2—of GAP lube every Periodic.

An overdose of MIL-G-22537 here will pop the T/R gear-box seal, and a busted seal means you'll be mixing gear-box lube oil with grease. That's not the way to win a ball game.

So-o-o-o, when you're PMP-ing your Bird Beautiful the bearing gets 2 shots—no more, no less.

It's a cinch to grease most of the fittings on your Sioux (OH-13) because they're right out in the open.

An exception is the engine cooling fan bearing. You have to do a little maneuvering.

The zerk fitting might be of the type off-set at an angle so that you can get the gun on it. If not, use a flexible fitting to shoot the works.

What can happen if you overlook that bearing on the PM Intermediate? Plenty! The bearing will dry up, the transmission-driven fan will run rough and give you an airframe high freq.

So, during your next grease job, eye the lube chart in the bird organizational maintenance pub. It could save you a lot of **extra** sweat and elbow grease.

OH-13S, TH-13T PILOTS . . . COOL DOWN!

"The word" on shutting down your Sioux engine is, retard the throttle to 2300 RPM and let the engine cool 4 minutes.

TM 55-1520-225-10 (Oct 69) gives a time, even tho the engine cylinder head temperature may stabilize before 4 minutes are up, for good reason . . . the turbocharger.

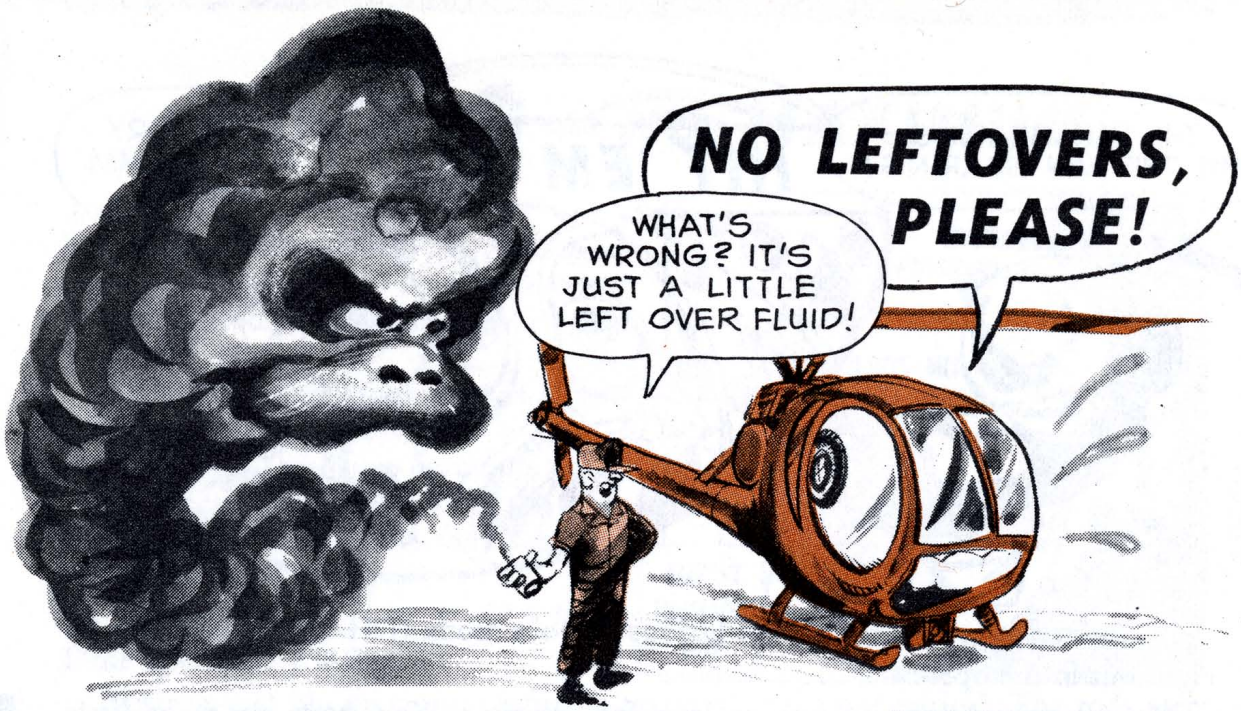
The engine thermocouple measures cylinder head temperature. There is no gage to measure tourbocharger temperature.

Focus on your wristwatch, man!

That'll help prevent rapid cooling which leads to coking, bearing failure and cracking of the housing.

Keep 'em flying.

GIVE IT 4 FULL MINUTES



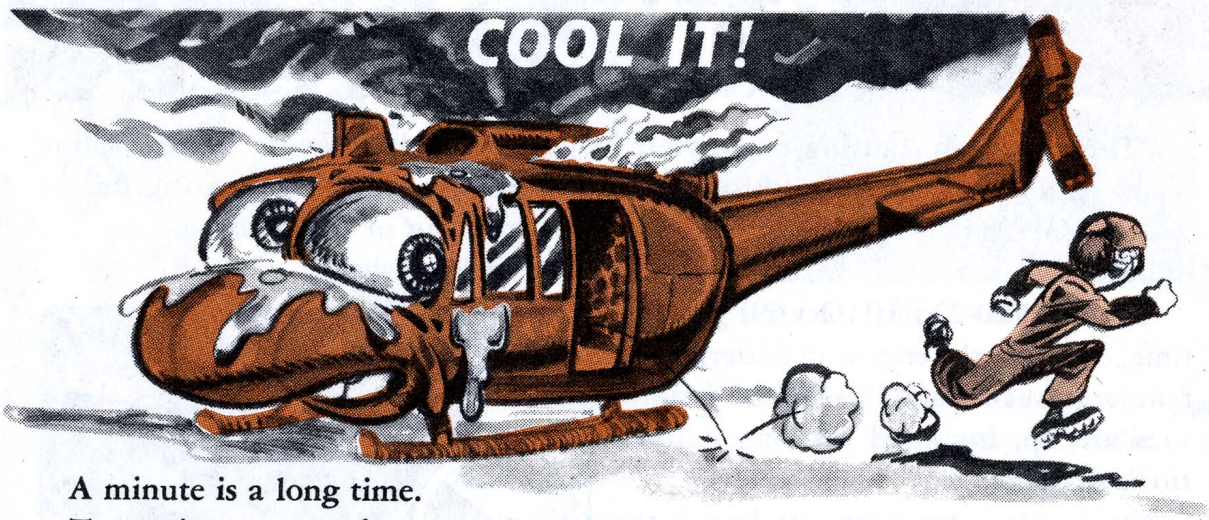
When you crew chiefs reach for hydraulic fluid to service a bird in the dusty boonies, think clean. Contamination is a dirty word.

To head off hydraulic pump failures caused by dirt entering the system, open up a new can of MIL-H-5606.

Never re-use a can that's been opened. The chances are too great that it's contaminated.

Use up the quart even if you have to pass it along to your buddy for same-day servicing of his bird.

Toss any fluid left over.



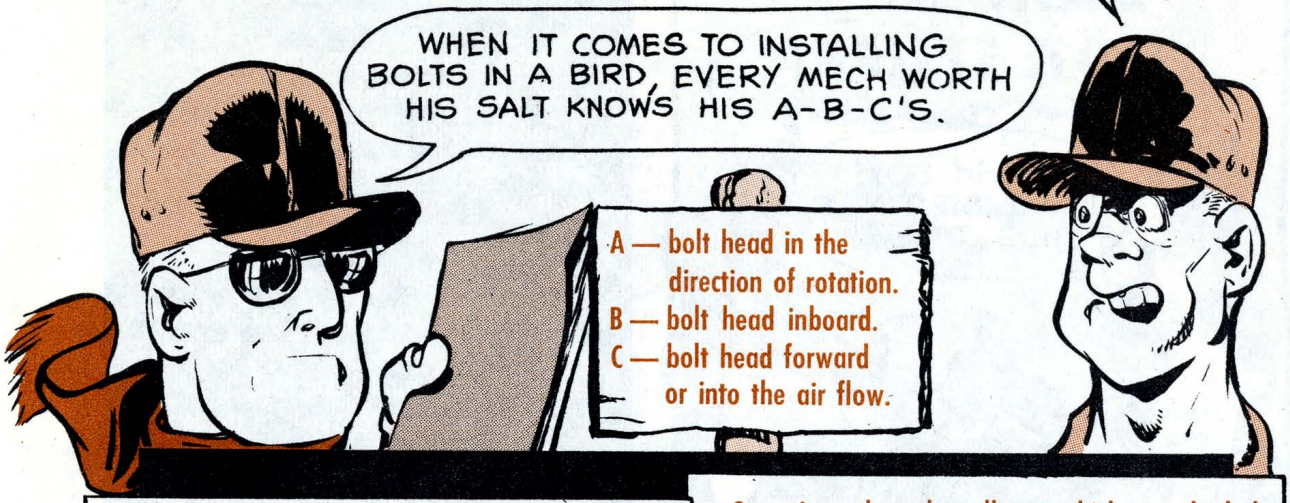
A minute is a long time.

Two minutes must be more than twice as long to some pilots because they don't wait out the 2-minute idle before shutting down the T-53 engine.

If you don't let the EGT stabilize, some critical parts — like the gas producer nozzle — will crack. The bird will be EDP'ed after a hot-end inspection.

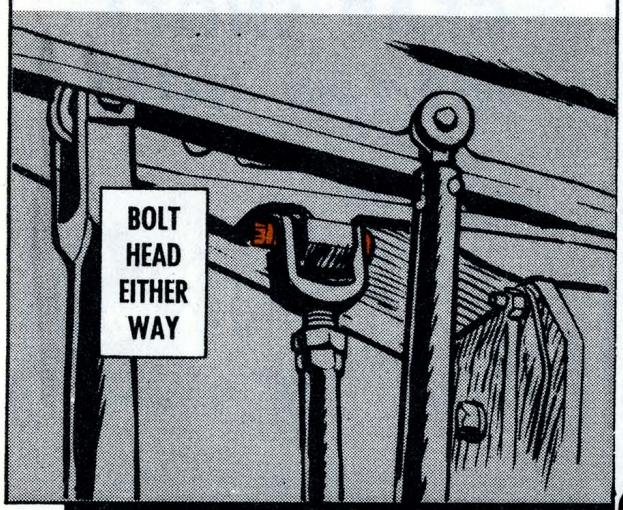
Time the idle, man.

WHICH WAY DID IT SAY?



In many cases a bolt can be put in with the head in either direction.

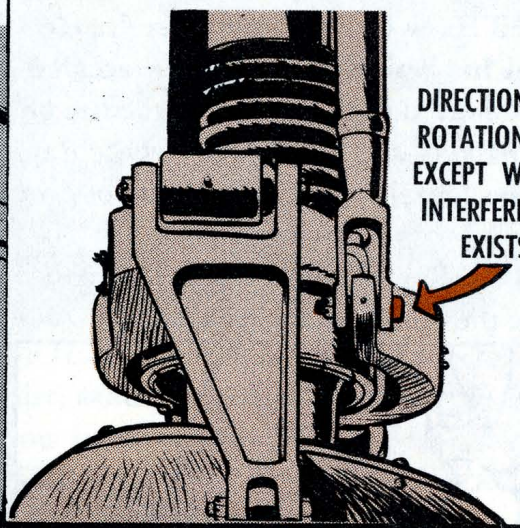
For example, the center bolt of the UH-1H pitch-change link moves perpendicular to the direction of rotation. The installation poop in the bird organizational maintenance pub does not give direction . . . So, the bolt head can face either way.



Sometimes the pub spells out which way the bolt may go.

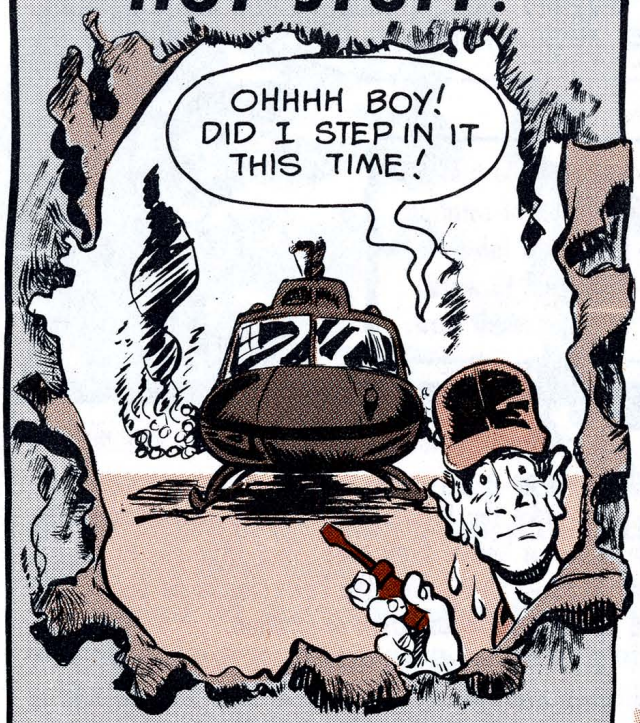
Take the UH-1H control tubes connected to the scissor levers. Para 8-48, Ch 7 (Apr 70) to TM 55-1520-210-20, says the bolts should be put in with the heads in direction of rotation.

If this gives you interference between the cotter pin and the opposite scissors lever, put the bolt in opposite to direction of rotation.



If you're in doubt about which way a bolt goes, eye the bird pub. If there's nothing in print, remember your A-B-C's.

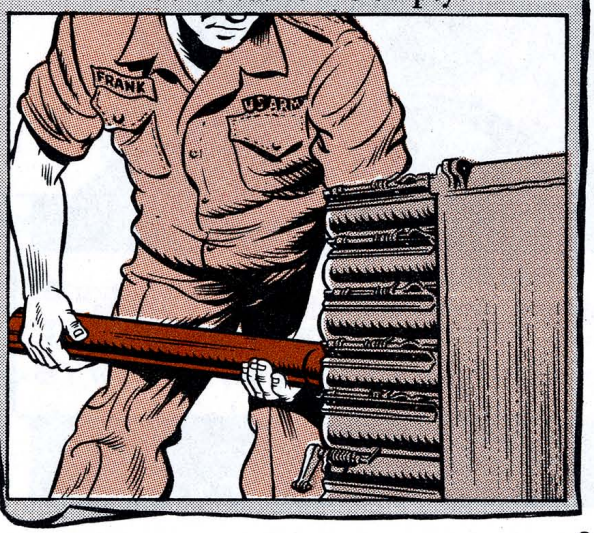
DANGER — HOT STUFF!



Even with the battery switch on your armed Huey (UH-1) OFF, there're electrical hot points which, when accidentally shorted to the airframe, can fire off the rockets and spoil your whole day.

The battery compartment is one of them.

NEVER pull electrical maintenance until the rocket tubes are empty.



MATCH 'EM UP!

Make with the basics, man — name, rank and serial number.

Talkin' about filling out an Equipment Improvement Recommendation on aircraft.

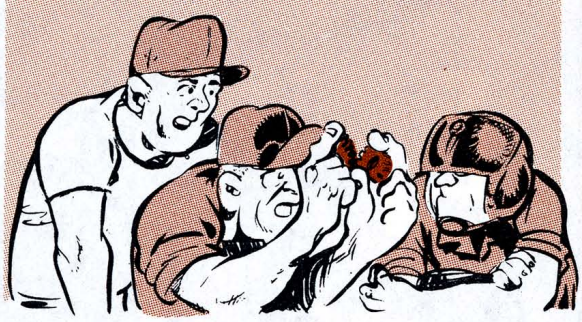
Sure, you fill out Section III on the DA Form 2407 for the **component.**

But be sure you also fill out Section I on the **end item,** including the bird serial number, model and FSN.

Saves the engineer-types at the head shed (AVSCOM) running around in circles trying to match up components and end items.

To get speedier service on your EIR's follow the poop in para 3-7.4.1 of TM 38-750 (Dec 69).

GEAR SHOT? MAYBE NOT!



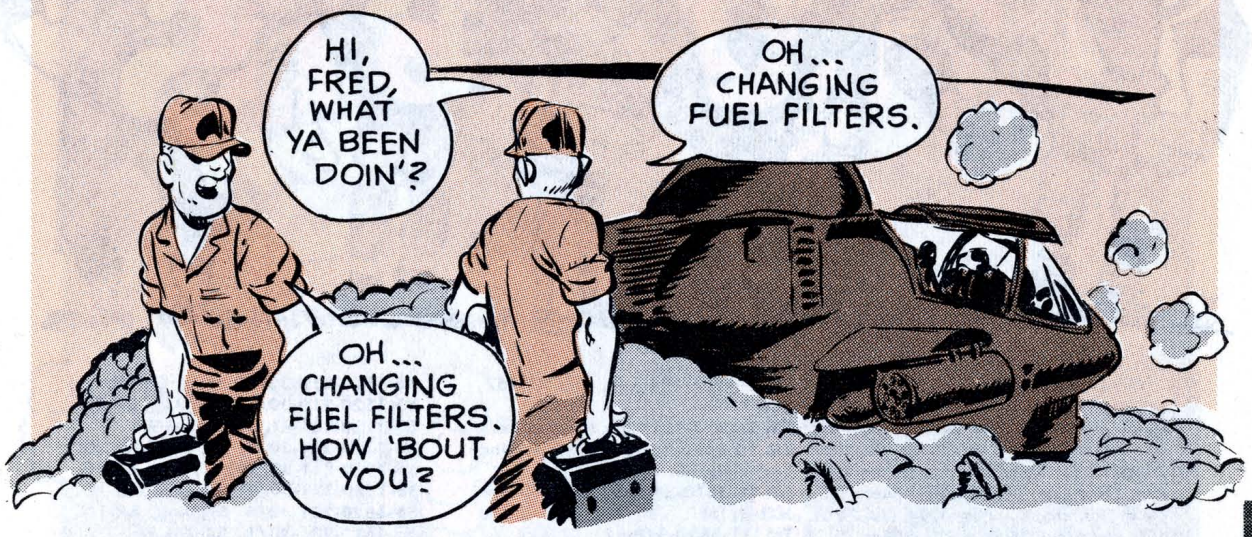
There's no need to get into a flap over whether your Bird Dog (O-1) wing flap screwjack gear has had it.

When you inspect the gear for wear at every other PMP, compare it visually with a new one.

If there's any doubt about the serviceability of the gear, replace it with a new one.

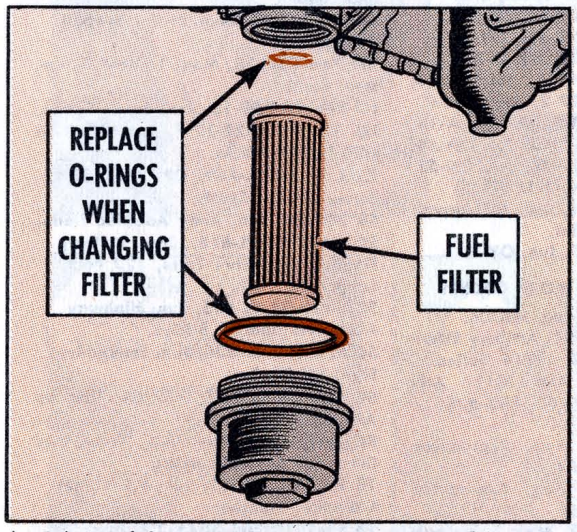
LOH COUNTDOWN . . .

FUEL FILTER FALLOUT



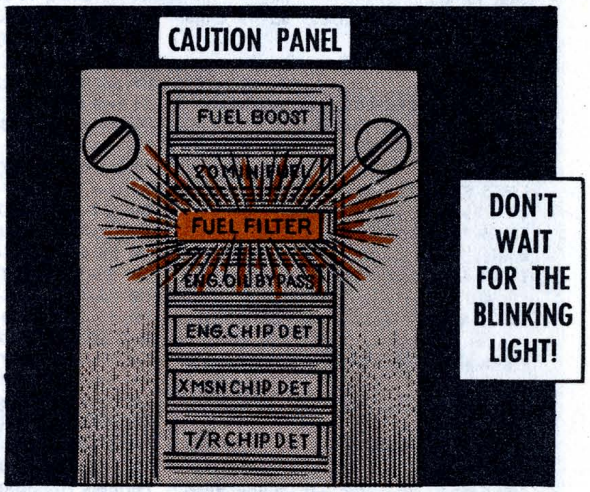
Your aircraft PM program combines by-the-book check-offs plus common sense. Replacement and repairs are based on normal wear 'n' tear of parts. So-o-o-o, crewing your bird in unusual weather or terrain calls for more frequent PM — and parts replacement.

F'rinstance, the fuel filter for the Kiowa's T63-A-700 and OH-6A's T63-



A-5A turbine engines are replaced every PE (300 hours). But if your birds disappear in a cloud of dust and debris every takeoff and landing, those filters could become dirty sooner.

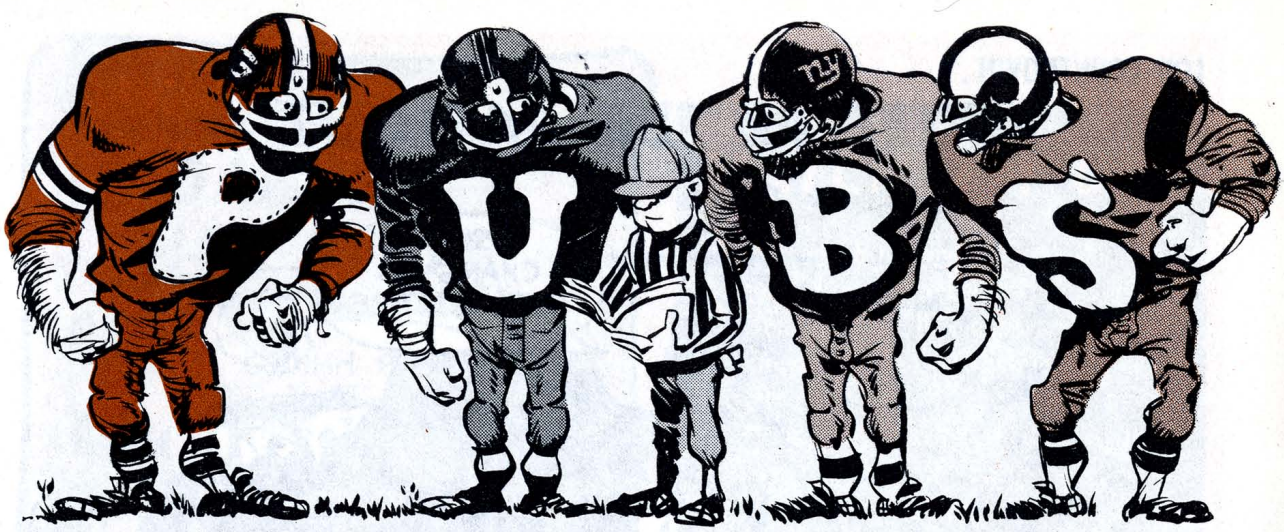
You don't hafta wait for a blinking caution light on the pedestal to warn you that the filter's smogbound! Your



MO can authorize a filter check for dust, dirt, sand or gunk more often. Be sure you have replacement parts on hand. While you're at it, why not check caution light circuit continuity.

Never, like NEVER! clean and reuse the filter. If your eagle eye says it's dirty, chuck it. Same goes for the O-rings at top and bottom of filter element.

Yessir-e-e-e, by-the-TM PM is fine, but an ounce of precaution adds a little something extra — for safety!



This is a selected list of recent pubs of interest to organizational maintenance personnel. This list is compiled from recent AG Distribution Centers Bulletins. For complete details see DA Pam 310-4 (Jun 69), and Ch 5 (Apr 70), TM's, TB's, etc.; DA Pam 310-6 (Jul 70), SC's and SM's; DA Pam 310-7 (Mar 70), MWO's; and DA Pam 310-9 (May 69), COMSEC Pubs.

TECHNICAL MANUALS

TM 5-2330-214-25P, C2, Jul, M172 Semitrailer.
TM 5-2805-201-14, Jun, 25-HP Outboard Motors.
TM 5-3805-243-20P, Jul, Loaders, 10,000 Lbs.
TM 5-3810-225-20P, Jul, 20-Ton Crane-Shovel, Tk Mtd.
TM 5-3825-209-20P, Jul, Rotary Sweeper.
TM 5-3825-223-12, Jul, Water Distributor.
TM 5-3655-201-20P, Jul, Gas Gen Equip.
TM 5-4120-221-15, Jun, 38,000-BTU Flr Mtd Air Conditioners.
TM 5-4140-202-14, Jun, Centrifugal Fan, Nike-Herc.
TM 5-4310-250-20P, Jul, Air Comp, 250 CFM.
TM 5-4310-275-25P, Jun, Air Comp, Under 5 CFM.
TM 5-4520-236-24P, Jun, 15,000 BTU Space Heaters.
TM 5-4610-205-20P, Jul, Water Purif Equip.
TM 5-6115-271-14, Jun, Gen Sets, Mil Design 400, 60 Hz and 3-KW DC.
TM 5-6115-305-20P, Jul, 15-KW Gen Sets.
TM 5-6115-575-14, Jul, 100-KW Gen Sets.
TM 5-6675-233-20P, Jun, Theodolite.
TM 9-1430-254-15P/3, Jul, Nike-Herc.
TM 9-1430-516-25P, Jul, Hawk.
TM 9-1440-301-20P, Jul, Sergeant.
TM 9-2300-257-20P, C1, Jun, M112A1-Series.
TM 9-2320-260-20, Jun, G908-series 5-Ton Truck (M813, etc.).
TM 9-2330-247-14, May, M353 3½ Ton Trailer.
TM 9-4910-491-15P, May, Tire Spreader, Air Operated, With Tire Hoist, 12 to 28-In Bead Dia Range, 3.30 to 14.00-In Max Crass Section.
TM 9-4931-334-14P, Jul, XM167 20MM Gun.
TM 9-6920-428-20P, Jul, Redeye.
TM 10-8400-201-23, Jun, Clothing, Textile Repair.
TM 11-5810-247-ESC, Jun, HYL-3/TSEC.
TM 11-5820-540-12, C2, Jul, AN/GRC-103 Radio.
TM 11-5820-759-12, Jul, AN/GRC-165, C-7648/GRC-165.
TM 11-6625-673-15-1, Jun, All Aircraft Tachometer Test Set.
TM 11-6625-1733-12, Jul, OV-1A-1B-1C Test Set AN/AAM-36.
TM 11-6625-1749-12, Jul, AN/GPM-61 Calibrator.
TM 11-6625-1825-12, Jun, AN/AAM-34 Test Set.
TM 11-6625-1826-12, Jul, AN/AAM-33 Test Set.
TM 11-6625-1827-12, Jul, AN/AAM-32 Test Set.
TM 11-6625-1828-12, Jun, OV-1A-1B-1C, Test Set AN/AAM-31.
TM 55-1510-201-20P-1, Jul, U-8.
TM 55-1510-201-20P-2, Jul, U-8.
TM 55-1510-204-20P, Jul, OV-1.
TM 55-1510-209-20P, Jul, U-21.
TM 55-1520-217-20P-1, Jul, CH-54.
TM 55-1520-217-20P-2, Jul, CH-54.
TM 55-1520-219-PMI, Jul, UH-1A-1B.
TM 55-1520-228-20PMD, Jul, OH-58.
TM 55-1520-228-20PMP, Jul, OH-58.
TM 55-2810-223-24, Jul, U-1.
TM 55-6230-239-15, Jul, All Aircraft Portable Floodlight Set.
TM 55-8465-207-10, Jun, OV-1.

MODIFICATION WORK ORDERS

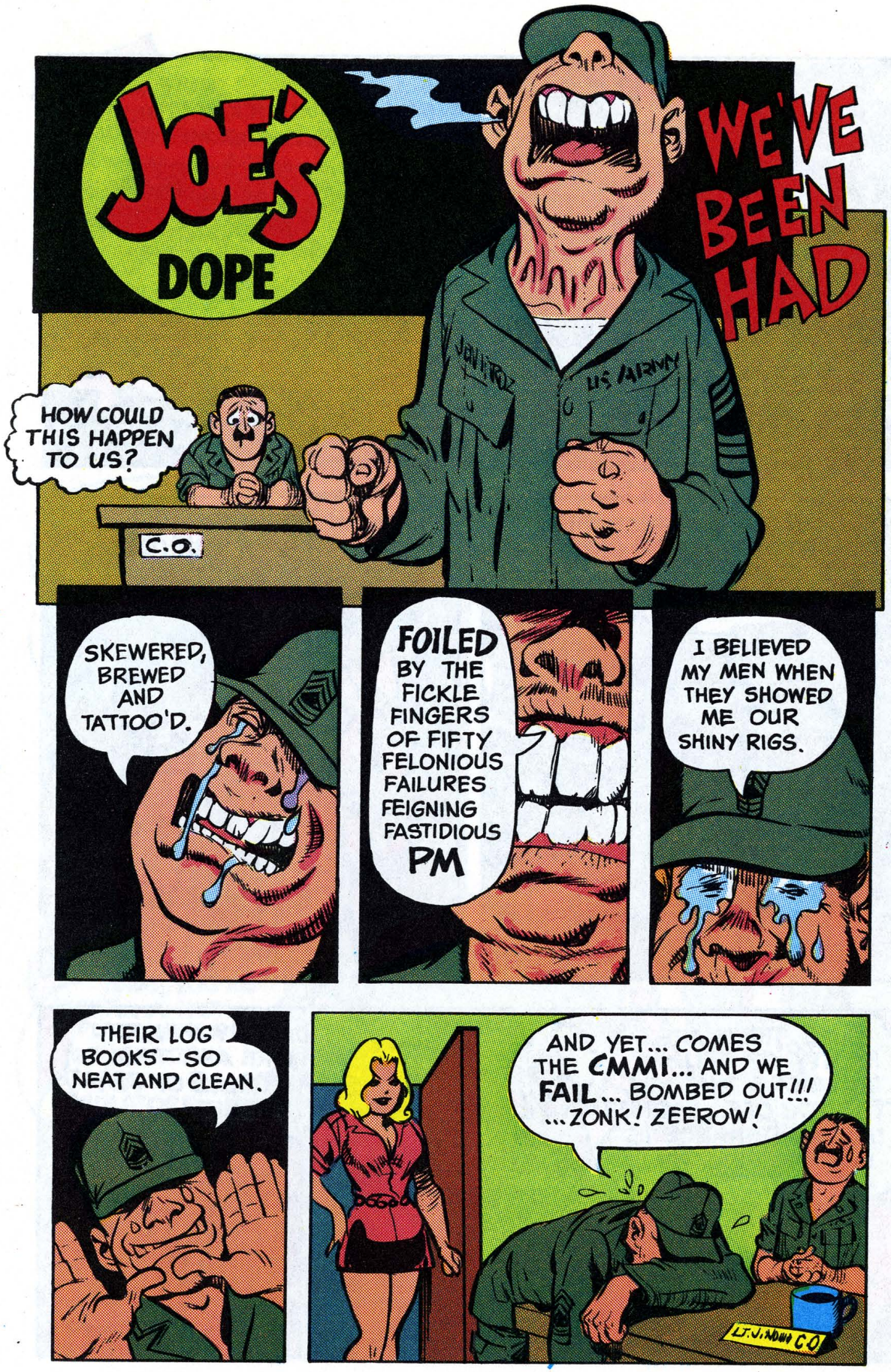
9-1100-227-20/5, Aug, MADM.
9-1240-288-40/1, Jul, Artillery Elbow Telescopes M16A1D, M116 Series.
9-1240-308-30/1, Aug, M114 Arty Elbow Telescope, M102 105-MM Towed Howiter.
9-1290-326-40/1, Aug, Reproducer, Sig Data AN/GSQ-64.
9-1290-326-40/2, Aug, Reproducer, Sig Data AN/GSQ-64.
9-1430-465-30/3/1, May, Shillelagh.
9-1430-465-30/3,1, May, M551 and M60A1E2.
9-2520-249-30/1, Aug, M551.
11-6625-667-40/1, Aug, All Fixed and Rotor Wing Transponder AN/APM123(v)1.
55-1500-210-30/23, Jul, CH-47.
55-1500-210-30/40, Aug, CH-47.
55-1520-210-30/17, C5, Aug, UH-1D.
55-1520-221-CL, Jun, AH-1G.
55-1520-221-30/7, C2, Aug, AH-1G.
55-1520-221-30/19, C1, Aug, AH-1G.
55-1520-221-30/21, C1, Aug, AH-1G.
55-1520-221-40/4, C1, Aug, AH-1G.
55-1615-236-20/1, Jul, CH-54.

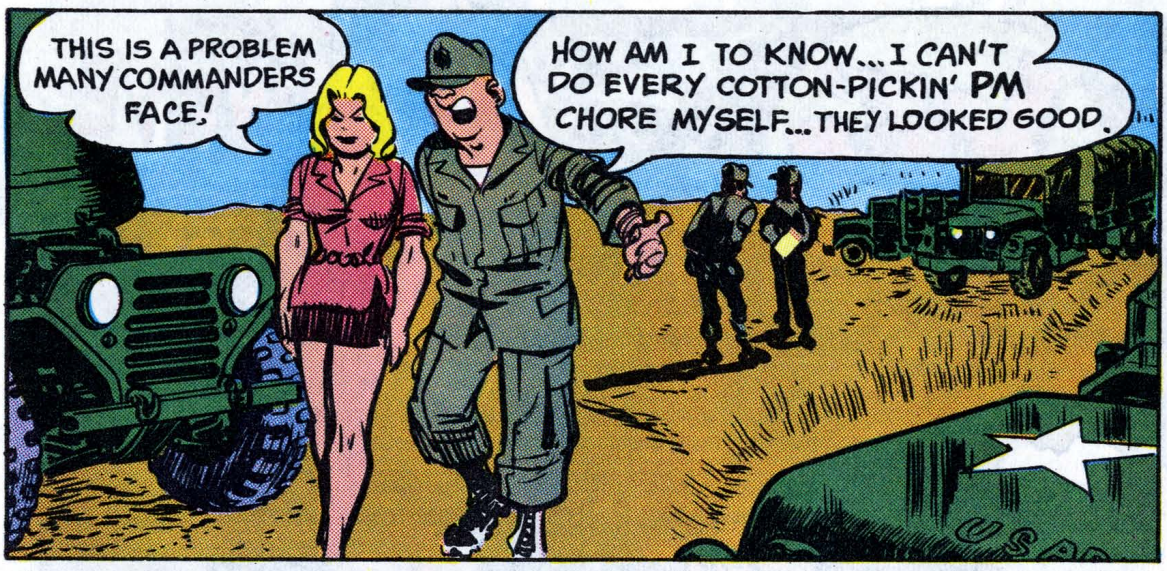
NEW URGENT MWO'S

55-1510-209-20/8, 2 Jul, and Ch 1, 24 Jul, Replacement of Attaching Screws Retaining Plate, U-21.
55-1520-221-20/13, Jun, Inspection and Replacement of Drive Link Assemblies AH-1G and TH-1G.
55-1520-228-30/3, Mar, Modification of Door Latch Installation OH-58A.
55-1520-228-30/4, May, Modification of Jettison Installation on the Crew and Passenger Doors OH-58A.

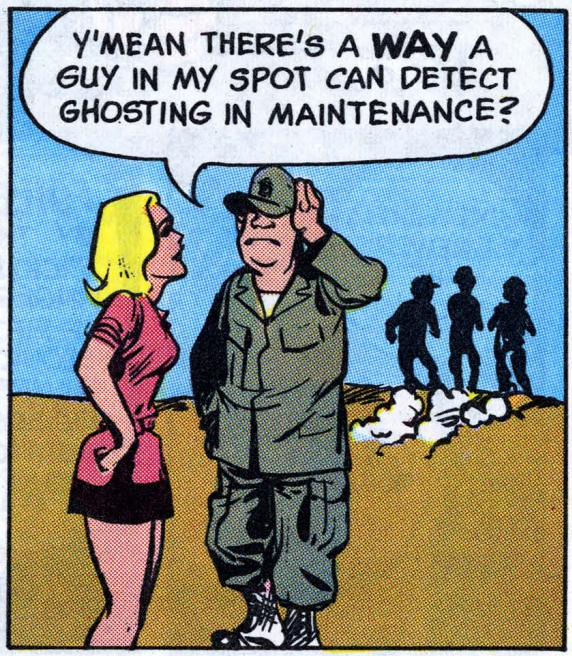
MISCELLANEOUS

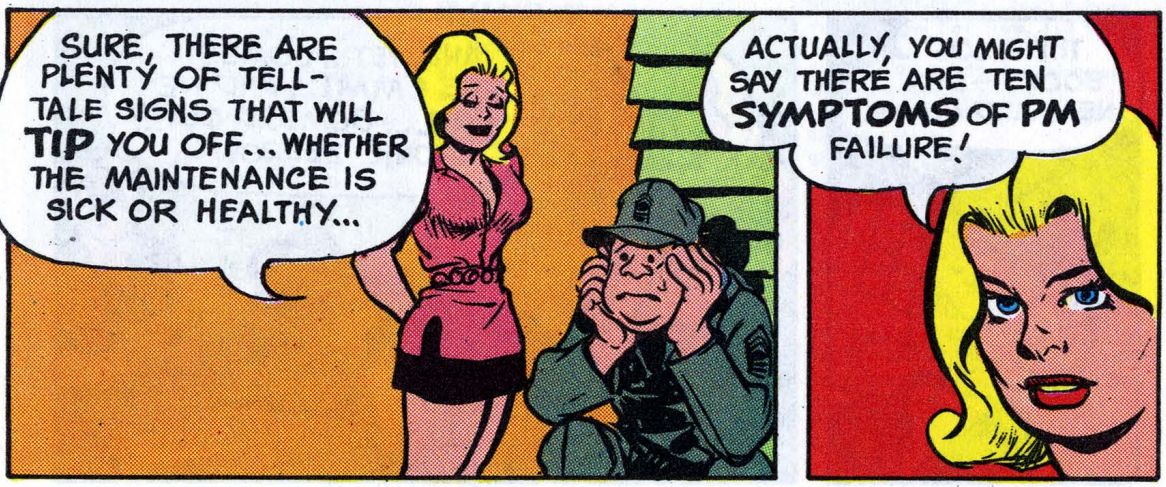
AR 385-55, Jul, Motor Veh Safety.
AR 740-30, Jul, Storage, Ship Supplies and Equip.
DA Cir 750-34, Aug, Maint Support Positive.
DA Pam 750-38, May, TAMMS Equipment Records.
LO 5-4320-250-12, Jun, Petrol Pumps.
LO 10-3930-622-12-1, Jun, 6000-Lb GED Forklift Trucks.
ORD 7 SNL G-749, C2, Aug, G749-Series 2½-Ton Truck.
SB 700-20, Jun, Army Adopted Items.
SC 5420-97-CL-E18, Jun, Railway Fixed Bridge: Thru Truss, 123 Feet Long.
SC 5420-97-CL-E35, Jun, Highway Aluminum Floating Bridge.
SC 6230-97-CL-E06, Jun, Emergency Light Set Marker.
SC 6545-8-CL-D27, Jul, Med Set Bn Aid Sta.
SC 6675-97-CL-E45, Jun, Truck Mtd Surveying Control Section.
TB 9-1310-247-12, Jul, M5 40MM Grenade Launcher.
TB 55-1510-204-30/5, C2, Aug, OV-1.
TB 55-1510-209-40/1, Jul, U-21.
TB 55-1520-227-20/11, Sep, CH-47.
TB 750-251, Jul, Standards for Non-Mechanical Items Incorporated on Overhauled or Repaired USAMECOM End Items of Equipment.

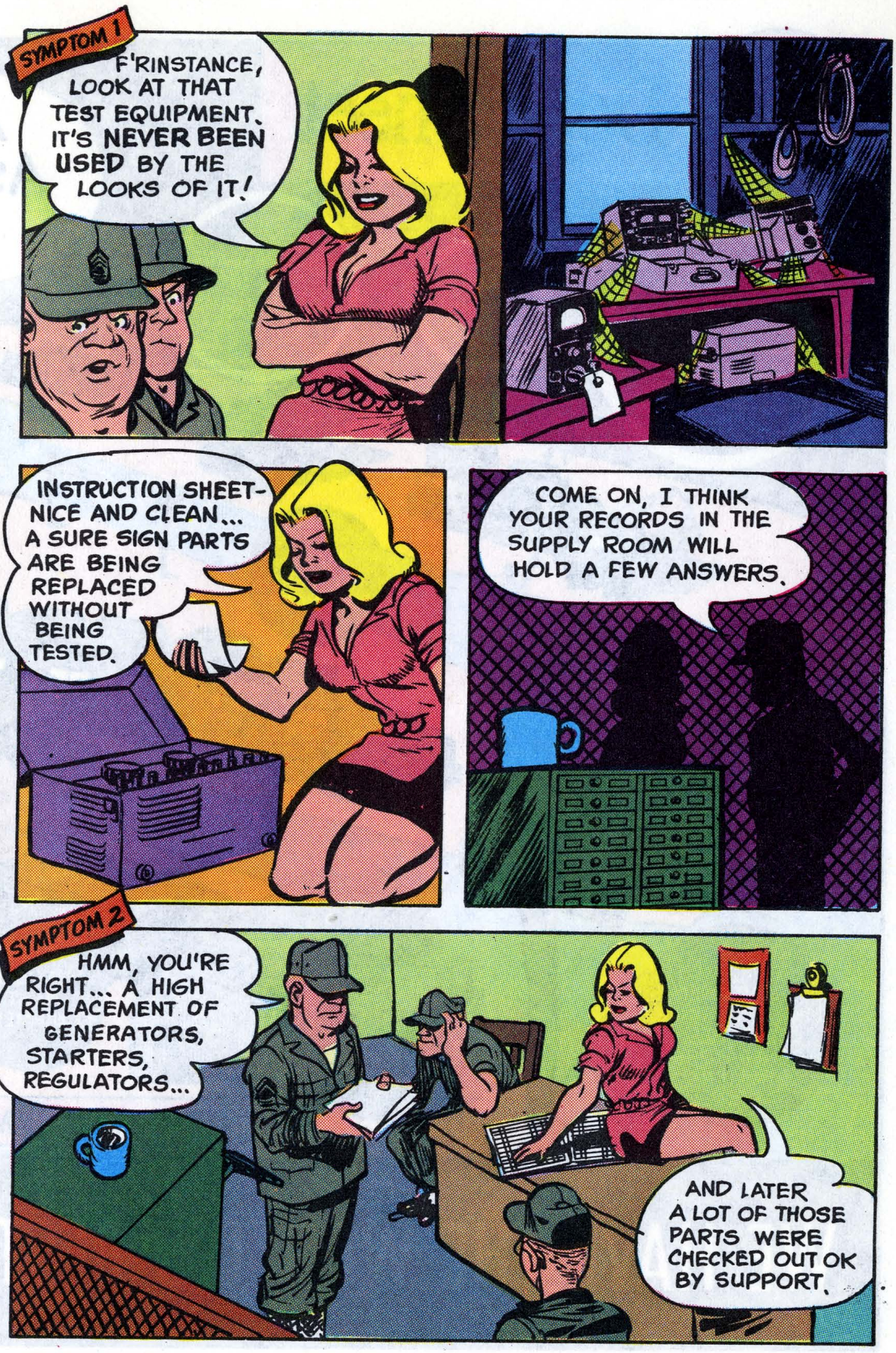

JOE'S DOPE
WE'VE BEEN HAD
HOW COULD THIS HAPPEN TO US?
C.O.
US ARMY
SKEWERED, BREWED AND TATTOO'D.
FOILED BY THE FICKLE FINGERS OF FIFTY FELONIOUS FAILURES FEIGNING FASTIDIOUS PM
I BELIEVED MY MEN WHEN THEY SHOWED ME OUR SHINY RIGS.
THEIR LOG BOOKS—SO NEAT AND CLEAN.
AND YET... COMES THE CMMI... AND WE FAIL... BOMBED OUT!!! ...ZONK! ZEEROW!
LT. J. NOW C.O.

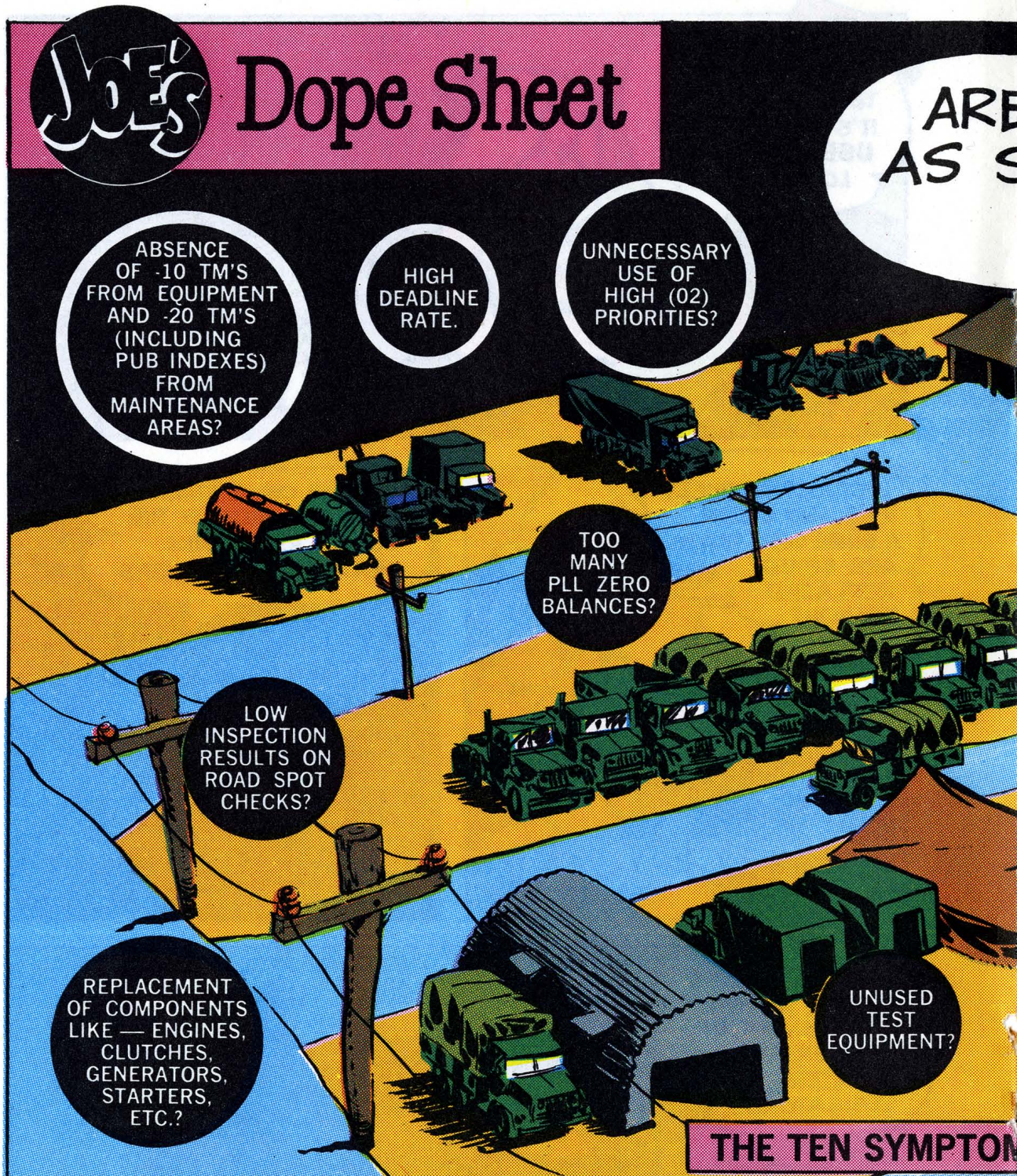

THIS IS A PROBLEM MANY COMMANDERS FACE!
HOW AM I TO KNOW... I CAN'T DO EVERY COTTON-PICKIN' PM CHORE MYSELF... THEY LOOKED GOOD.

OF COURSE... BUT SINCE WHEN DID SPIT AND POLISH GIVE YOU COMBAT READY EQUIPMENT?
GHOST STATION
NO VACANCY


Y'MEAN THERE'S A WAY A GUY IN MY SPOT CAN DETECT GHOSTING IN MAINTENANCE?

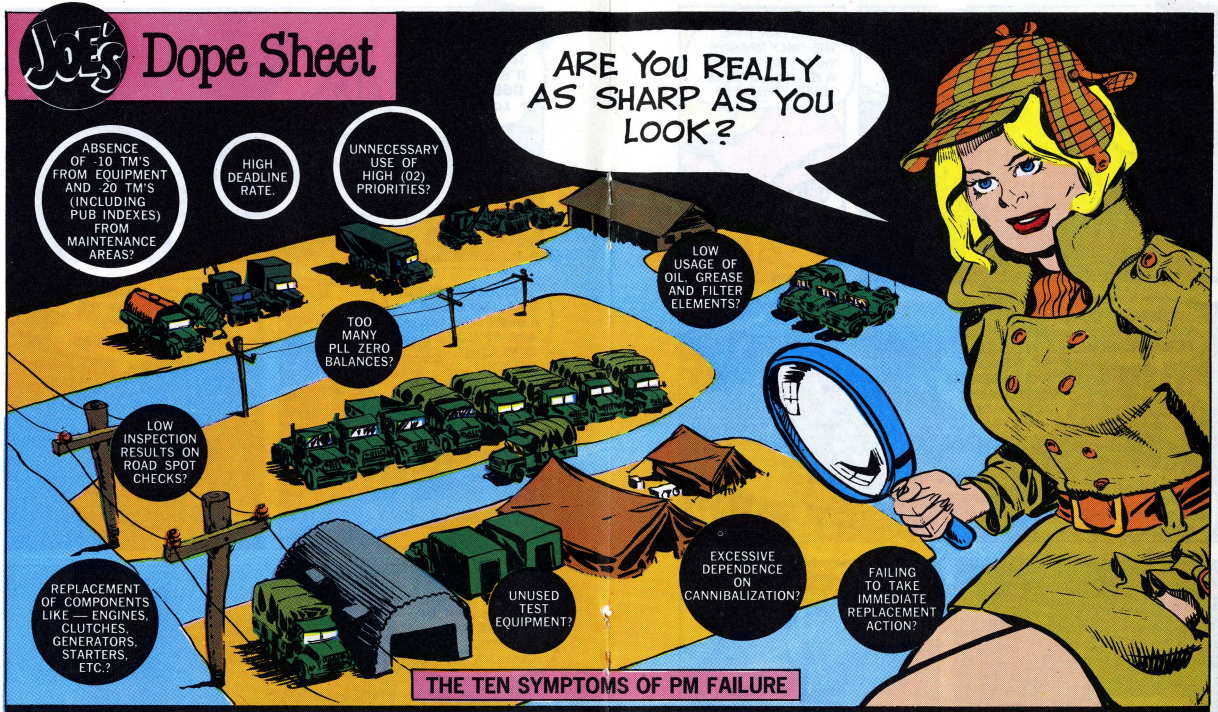

SURE, THERE ARE PLENTY OF TELL-TALE SIGNS THAT WILL TIP YOU OFF... WHETHER THE MAINTENANCE IS SICK OR HEALTHY...
ACTUALLY, YOU MIGHT SAY THERE ARE TEN SYMPTOMS OF PM FAILURE!


SYMPTOM 1
F'RINSTANCE, LOOK AT THAT TEST EQUIPMENT. IT'S NEVER BEEN USED BY THE LOOKS OF IT!
INSTRUCTION SHEET- NICE AND CLEAN... A SURE SIGN PARTS ARE BEING REPLACED WITHOUT BEING TESTED.
COME ON, I THINK YOUR RECORDS IN THE SUPPLY ROOM WILL HOLD A FEW ANSWERS.
SYMPTOM 2
HMM, YOU'RE RIGHT... A HIGH REPLACEMENT OF GENERATORS, STARTERS, REGULATORS...
AND LATER A LOT OF THOSE PARTS WERE CHECKED OUT OK BY SUPPORT.



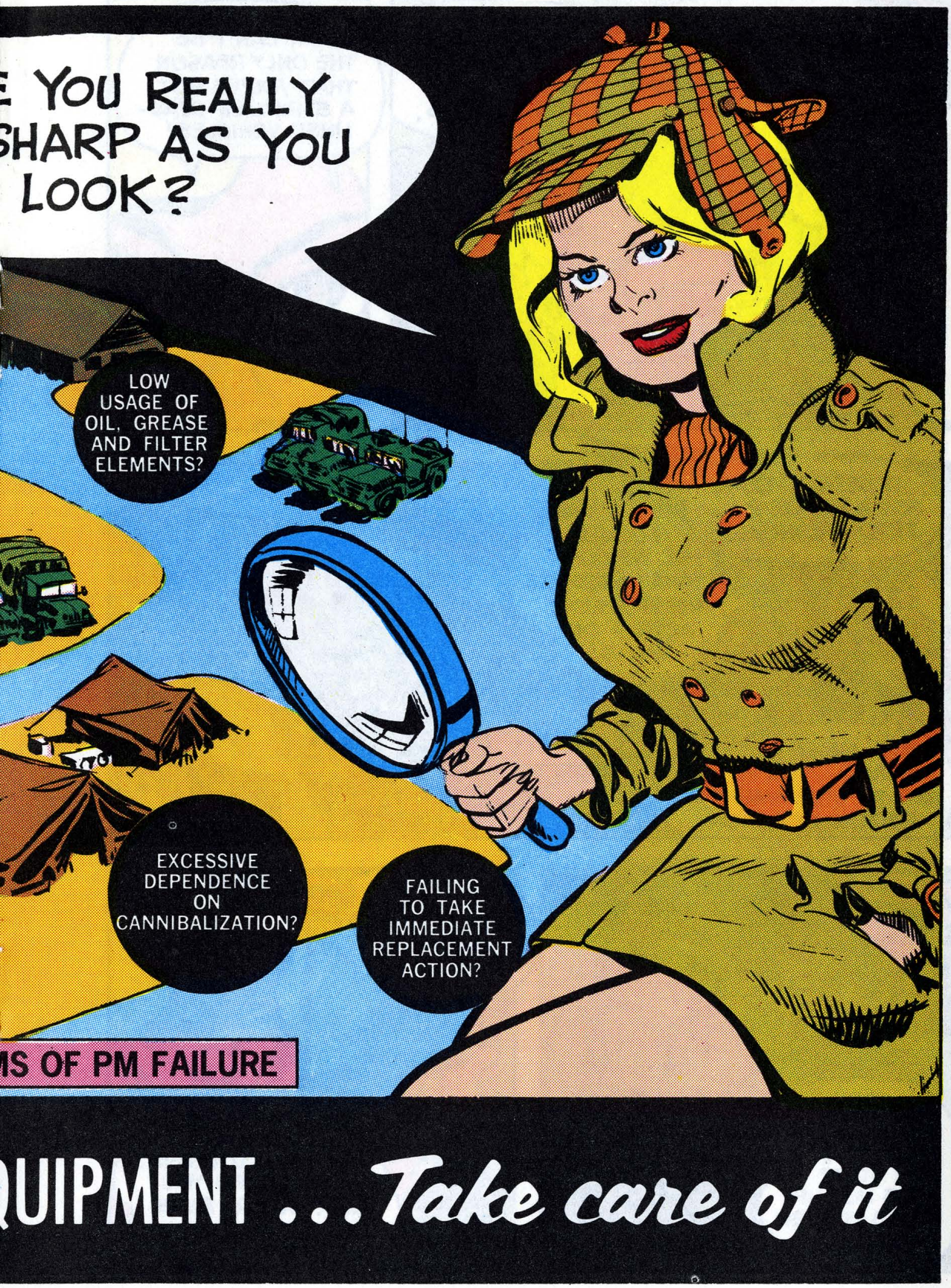
WE HAVE THE WORLD'S BEST EQ

IF YOU WANT TO DISPLAY THIS CENTERPIECE ON YOUR BULL



WE HAVE THE WORLD'S BEST EQUIPMENT ... *Take care of it*

IF YOU WANT TO DISPLAY THIS CENTERPIECE ON YOUR BULLETIN BOARD, OPEN STAPLES, LIFT IT OUT AND PIN IT UP.



LETIN BOARD, OPEN STAPLES, LIFT IT OUT AND PIN IT UP.

SYMPTOM 3
HERE'S A POINT YOU CAN LOOK FOR... YOU'VE GOT A HIGH DEADLINE RATE ON YOUR DA FORM 2406.
BUT A LOT OF OUR MECHANICS ARE PULLIN' OTHER DUTIES.
THAT CAN'T BE THE ONLY REASON THAT YOU'VE GOT A STRING OF DEAD-LINED VEHICLES!
SYMPTOM 4
IT SEEMS YOU'VE GOT A LOT OF PLL ZERO BALANCES...
IT COULD BE WE DON'T TAKE IMMEDIATE REPLACEMENT ACTION ON PARTS!
SYMPTOM 5
WAITING PARTS
TOO MANY DUE-OUTS... YOU'VE GOT TO TAKE IMMEDIATE FOLLOW-UP ACTION.
SYMPTOM 6
EXCESSIVE CANNIBALIZATION IS A SURE SIGN YOUR PLL'S NOT UP TO ITS PROPER LEVEL.
SYMPTOM 7
WELL... WE DON'T HAVE A REGULAR PLL MAN...
...OR PUB'S CLERK-- YOU HAVEN'T GOT THE PUBS YOU NEED. GET DA PAMS 310-4, 310-6, 310-7, 310-10.

SYMPTOM 8
YOU'VE GOT YOURSELF IN A BAD SPOT, SPORT. SO NOW YOU'VE USED TOO MANY 02 PRIORITIES. THIS CREATES A SUPPLY BOTTLENECK!
UGH
SYMPTOM 9
WITH ALL THESE REPLACEMENTS, IT MUST MEAN YOUR OPERATORS ARE NOT PROPERLY TRAINED IN SCHEDULED PM!
RIGHT UNDER MY NOSE!
SYMPTOM 10
YOU'VE A LOW USAGE RATE ON OIL, GREASE AND FILTER ELEMENTS...
WHICH MEANS PENCIL PM, BUT NO ACTION.
RIGHT MEN?
STOP!
STOP!
OH STOP!
SAY NO MORE, CONNIE, I GET THE IDEA! THERE'S MORE TO PM SUPERVISION AND DETECTION THAN I KNEW!
COME ON— LET'S GO TO A ROAD— SIDE CHECK POINT. I WANT TO SHOW YOU SOMETHING!

I'LL SHOW YOU THE DIFFERENCE BETWEEN JUST GOOD-LOOKING EQUIPMENT AND STUFF THAT'S COMBAT READY!
THAT RIG JUST MADE A ROUGH SUPPLY RUN, BUT HE AND HIS UNIT NEVER FAILED A ROAD SPOT CHECK OR A CMMI!
YUK! THAT TRUCK'S FILTHY!
YOU MEAN TO STAND THERE WITH YOUR BAREFACE HANGIN' OUT AND RATE THEIR DUSTY HEAP HIGHER THAN MY SHINY JEEP?
HMMM... ALL YOUR SPIT-AND-POLISH HASN'T DONE MUCH FOR THE RUNNING QUALITY OF YOUR JEEP.
YA GUYS ARE LUCKY THIS TRUCK WAS STILL HERE TO TOW YA OUT!
... AND I ALWAYS THOUGHT THE SPOT CHECK TEAM HAD A GRUDGE AGAINST US.
PARDON THE DIRT 'N' DUST, CONNIE.
OH, I DON'T MIND IT, I DON'T MIND IT AT ALL... AS LONG AS YOUR PM IS GROOVY.

HANDS OFF... UNLESS...

Y'know that switch on the A-1200 circuit board in your AN/VRC-12 radio series? The one that changes your set from hi-band to lo-band?

Well, when somebody takes that li'l ole circuit board out without authorization, guess what usually happens?

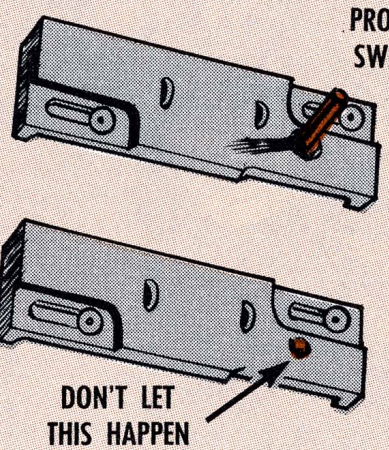
Y'got it—it's usually broken.

So-o-o-o, ole buddy, whatever the reason you want to take that circuit board out . . . unless it's specifically authorized in the TM, better not.

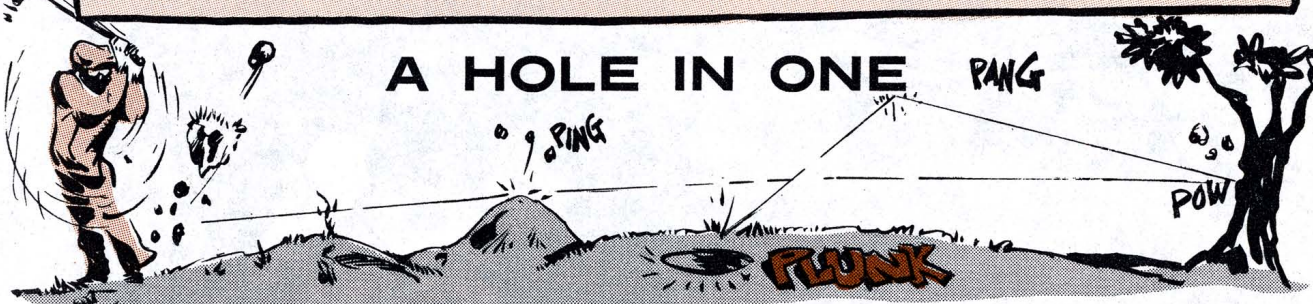
In fact, better not remove **any** of the similar sub-assemblies in your VRC-12 series—not unless TM 11-5820-401-20 (Dec 61) gives you authorization to forge ahead.

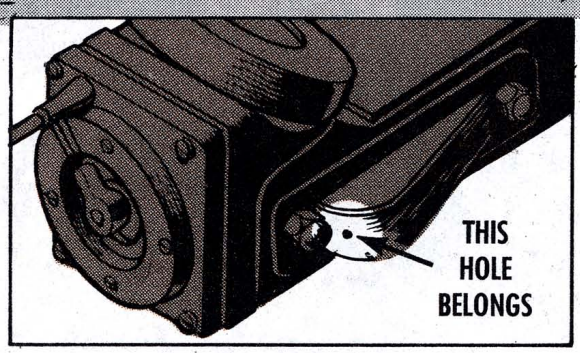
Some you can take out, some you can't. It's good to know the difference.

And there won't be so many switches comin' up broken.



A HOLE IN ONE





If you spy a little "pinhole" in the switch cover of your TA-1/PT telephone set, don't start cussin' and toss the cover out the window.

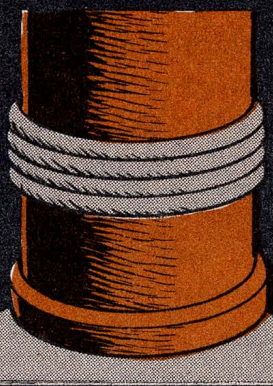
That hole's supposed to be there. It's an air-vent, not an accident.

You've got the same air vent pinhole in the generator lever cover.

PM POINTERS MAKE . . .

ANTENNA TIPS

Take your whip antenna sections and base receptacles apart every day and clean 'em. Wipe the threads dry and remove the dirt. Put some silicone compound on the threads before you rejoin the sections. This'll cut down freezing at the joints.



Be careful with the ribbon-types. If you fold them the wrong way, you're liable to crease or break the metal and put your antenna down. Fold 'em toward the concave side before you put 'em away.

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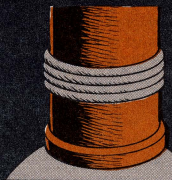

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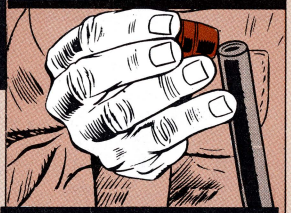
A smart operator doesn't ever run his radio set unless the antenna is installed and working. Otherwise, there could be damage to the antenna relay.

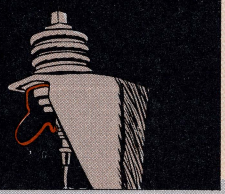
Keep your antenna tied down when your radio set isn't being used. The tie-down's especially valuable in the vicinity of low-hanging boughs, wires and electric lines. For the sake of safety, better install a ball on the tip, so no one gets a badly-damaged eye. Other things'll work, too, like stoppers, corks, tape, and so on.

Steel wool is taboo for cleaning protruding contacts. Use an eraser. Two or three gentle rubs do the job.

Use rubber caps or adhesive tape to turn back dust and mud and water from the lower antenna base section.



If the antenna you're using requires a ground strap or clamps, etc., make sure these items are secured and in their places.



PS MORE

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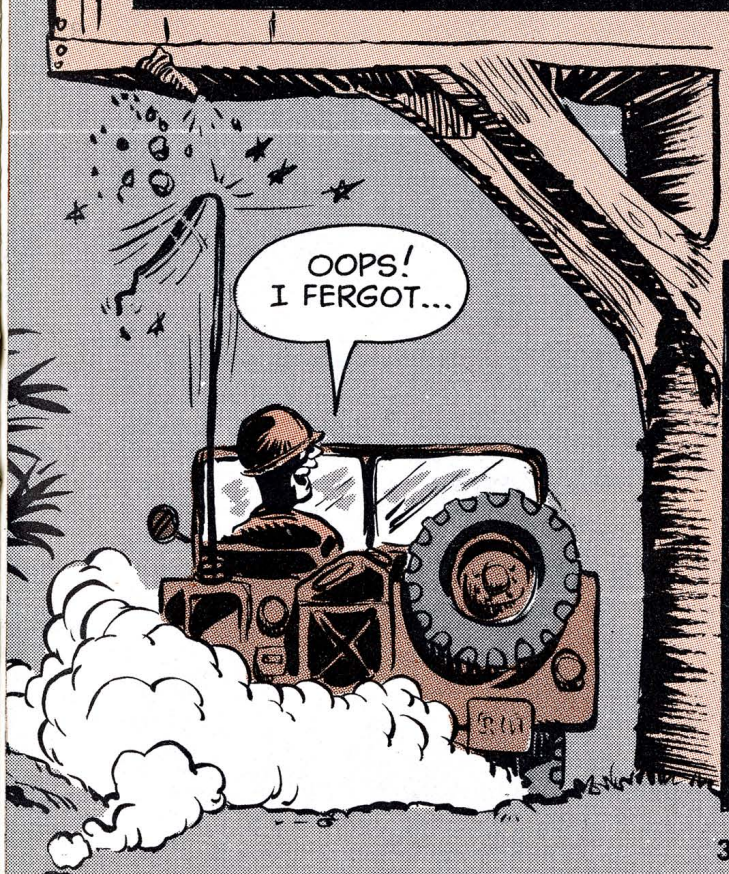

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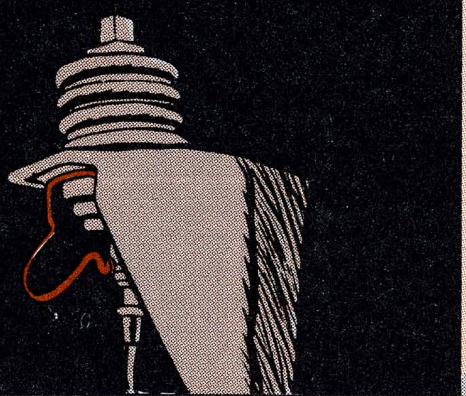
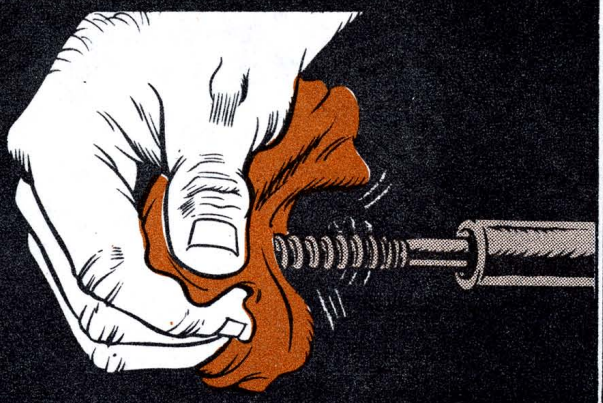
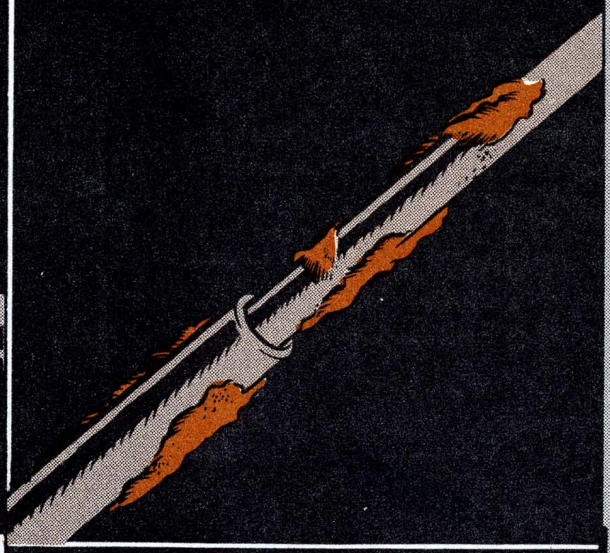


P.S MORE

The fittings of antenna sections should be kept clean to allow good contact, and keep the fittings from freezing together. For the cleaning, you'll need a dry or damp cloth. If there's corrosion, use a nylon or wire brush for the clean-up.

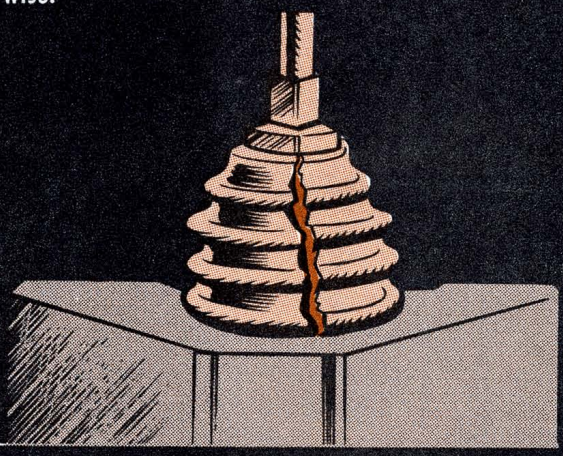


You'll get easier raising and lowering of a telescopic antenna if the sections are kept free of dust and dirt.



When the antenna's not installed, a dust cap or cover is helpful on the antenna connector, to ward off dust and moisture.

If you've got ceramic or glass-type antenna bases, be sure they're not cracked or full of water. Sending and receiving efficiency could suffer, otherwise.



When you're installing your antenna, grip it by the base nearest the threads. That way, there won't be as much chance of tearing loose the feeder wire.

SPARES FOR COMPONENTS

Dear Half-Mast,

With equipment like radio teletypewriter sets, telephone terminals and the like, is each component authorized the spares and Basic Issue Items in its separate TM . . . or are the spares and Basic Issue Items limited to those listed in the overall configuration TM?

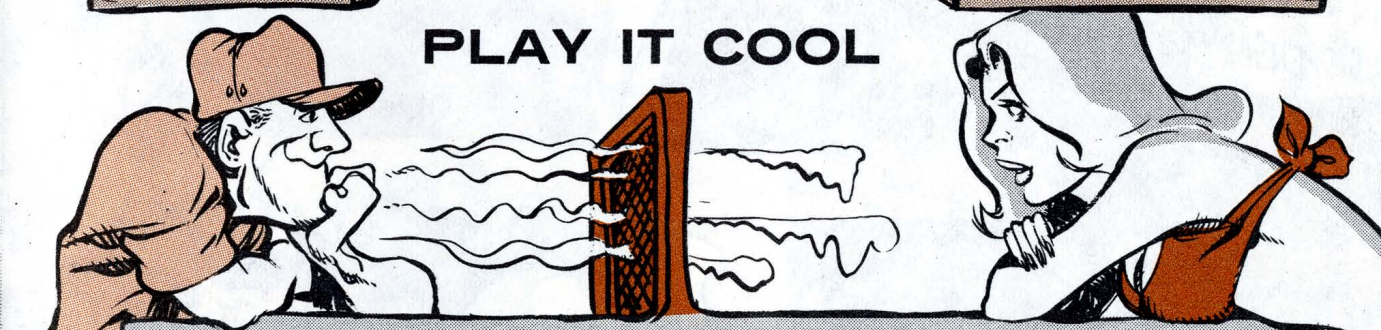
SSG J. F. B.

Dear Sergeant J. F. B.,

That's a puzzler overdue for solving. The word is that you're authorized the spares and Basic Issue Items as listed in each of the component TM's . . . as well as those in the TM on the total configuration.

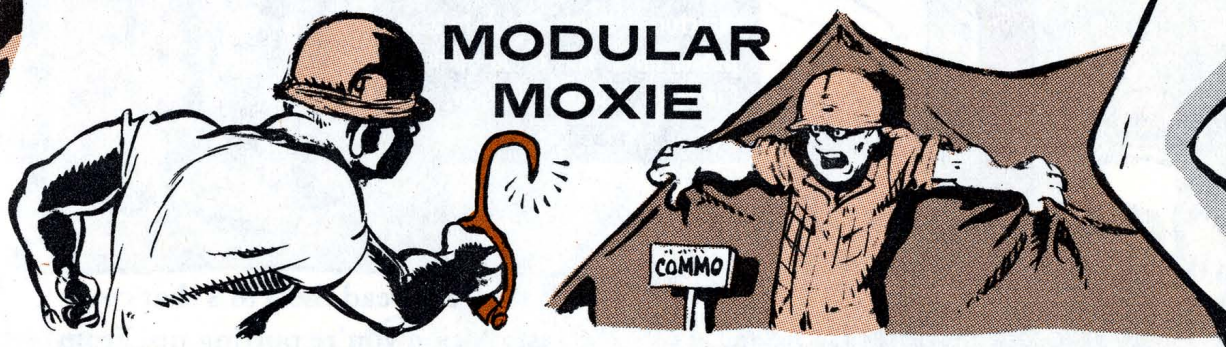
Half-Mast

PLAY IT COOL

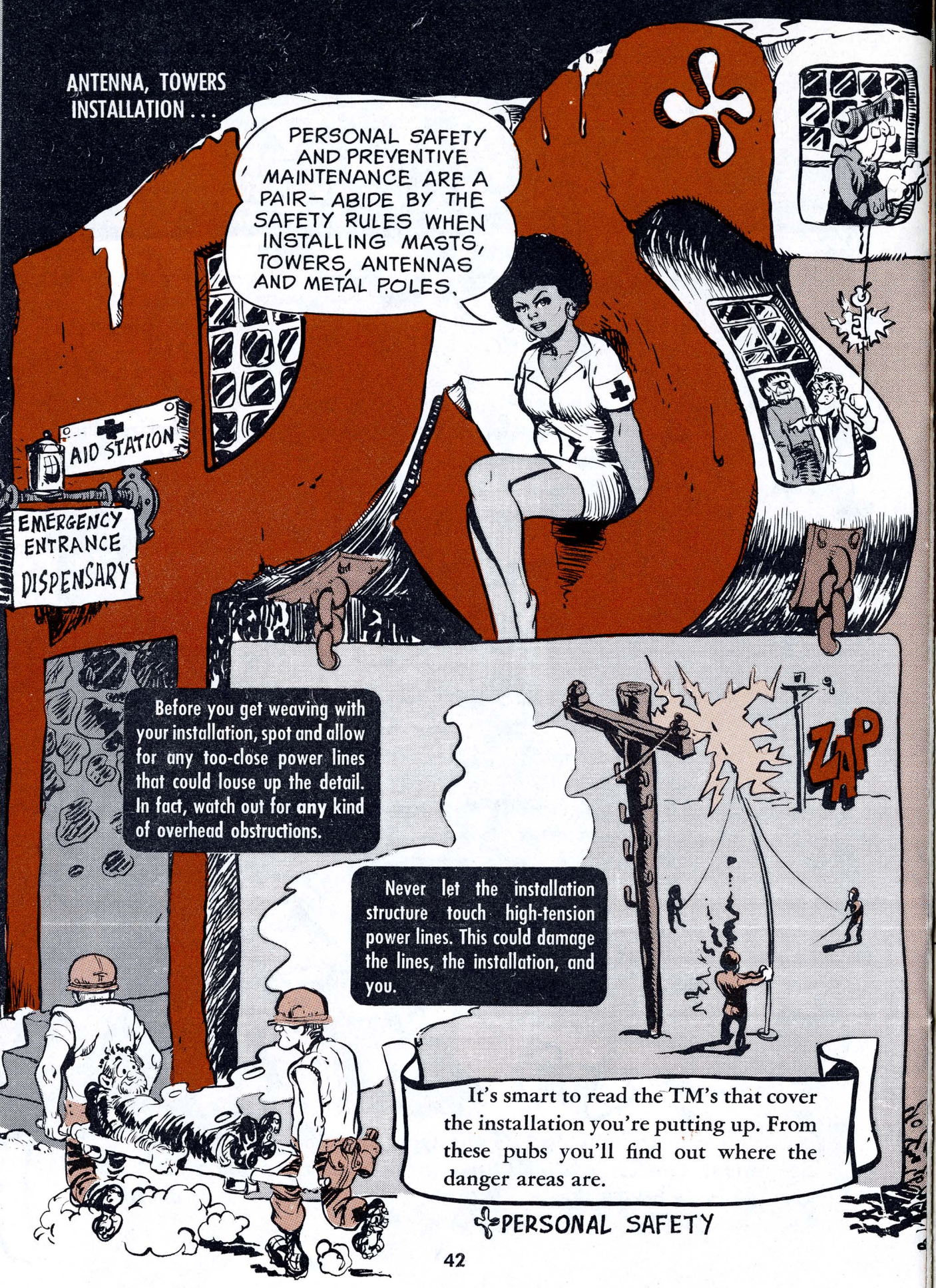


Air filters? Sure, they help your AN/GRC-103(V)I radio set hang onto its cool. So, like TM 11-5820-540-12 says, replace the air filter once a week. A coupla times a week may be right in some areas. Otherwise, heat botches your transistors and damages the plastic covers.

MODULAR MOXIE



Any time you AN/GRC-26 ( ) radio types tote the MD-239 modulator, be kinda careful. Careless handling—like letting some sharp object jab the MD-239—can cause breakage of either of the 2 front fuseholders, or the RF coax connector.


ANTENNA, TOWERS INSTALLATION . . .
PERSONAL SAFETY AND PREVENTIVE MAINTENANCE ARE A PAIR— ABIDE BY THE SAFETY RULES WHEN INSTALLING MASTS, TOWERS, ANTENNAS AND METAL POLES.
AID STATION
EMERGENCY ENTRANCE
DISPENSARY
Before you get weaving with your installation, spot and allow for any too-close power lines that could louse up the detail. In fact, watch out for any kind of overhead obstructions.
Never let the installation structure touch high-tension power lines. This could damage the lines, the installation, and you.
ZAP
It's smart to read the TM's that cover the installation you're putting up. From these pubs you'll find out where the danger areas are.

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PERSONAL SAFETY

FOR PM

WHIP ANTENNAS

If you're dealing with whip antennas, try these rules:

Don't grab a whip antenna, or lean against it. If the transmitter is operating, you could rack up some pretty bad burns.

Take no chances on driving under power lines, unless you **know** you've got plenty clearance.

Unless you've gotta have mobile operation of your radio set, keep the antenna tied in position to clear overhead obstructions.

INSULATOR IN-86

ROPE RP-5

If you're thinking of attaching extra sections to your whip antenna, make sure you'll have the necessary clearance in your immediate area.

During cross-country operations, keep your arms and legs in the vehicle — not dangling over the sides. Your body can be an electrical conductor if the vehicle happens to come in contact with a power line. Could mean serious shock or worse.

BOY! THAT WAS CLOSE — WE JUST NICKED THOSE POWER LINES, HUH JONES?.... HEY JONES!

PS MORE

FOR PM

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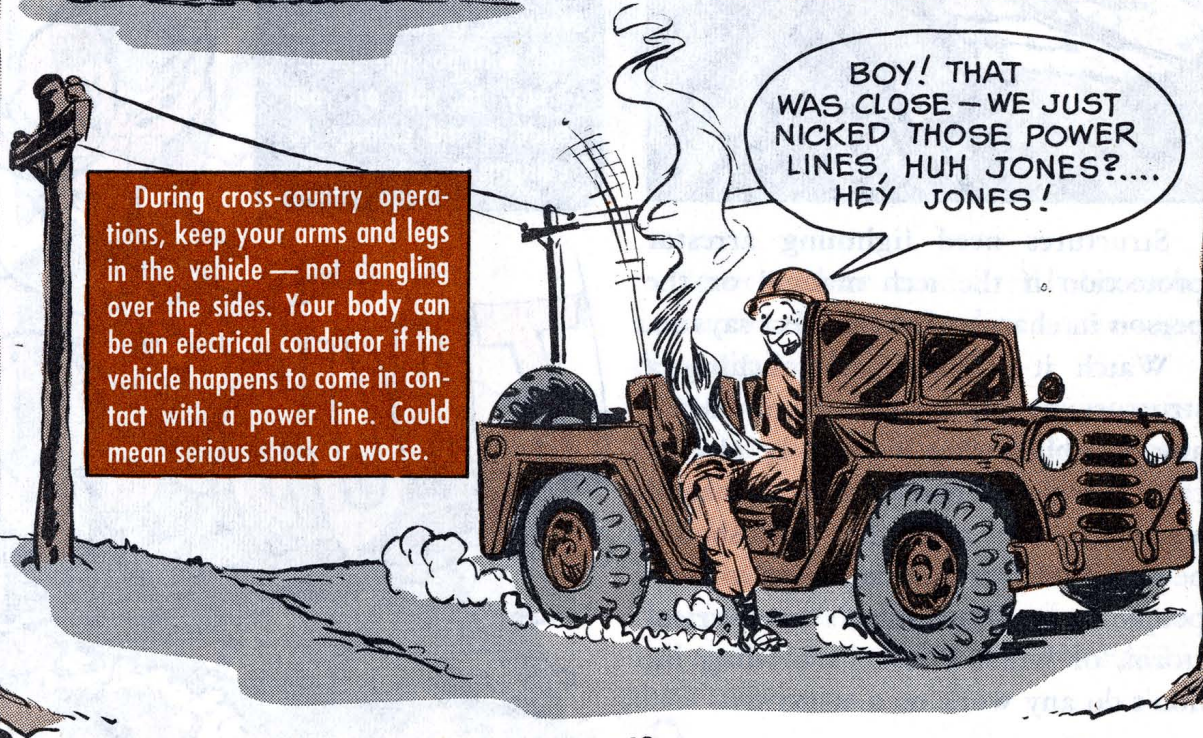
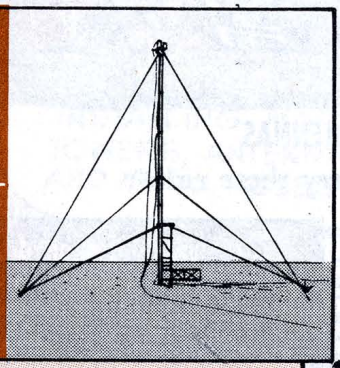


P.S MORE

There's the electrical factor to be considered. The rules are:

Install masts, towers and antennas as far as possible from power lines — at least twice the height of the structure being installed.

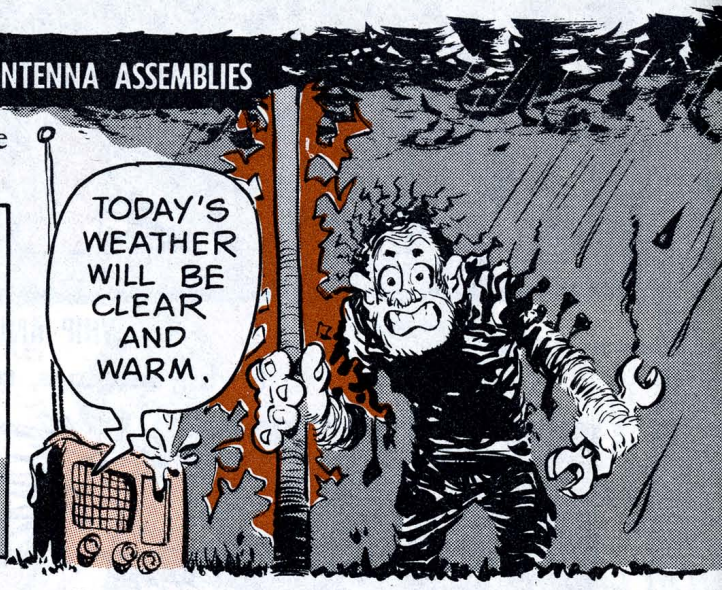


Keep guys well away from power lines, to eliminate the possibility of damage to equipment by a falling line.

Leave all temporary guys in place until permanent guys have been installed. All guys should be so attached and controlled so as to keep the structure from toppling as it's being erected. Improperly controlled, it could topple on the men who are pulling it erect.

Structures need lightning arrestor protection if the tech manual or the person in charge of the project says so.

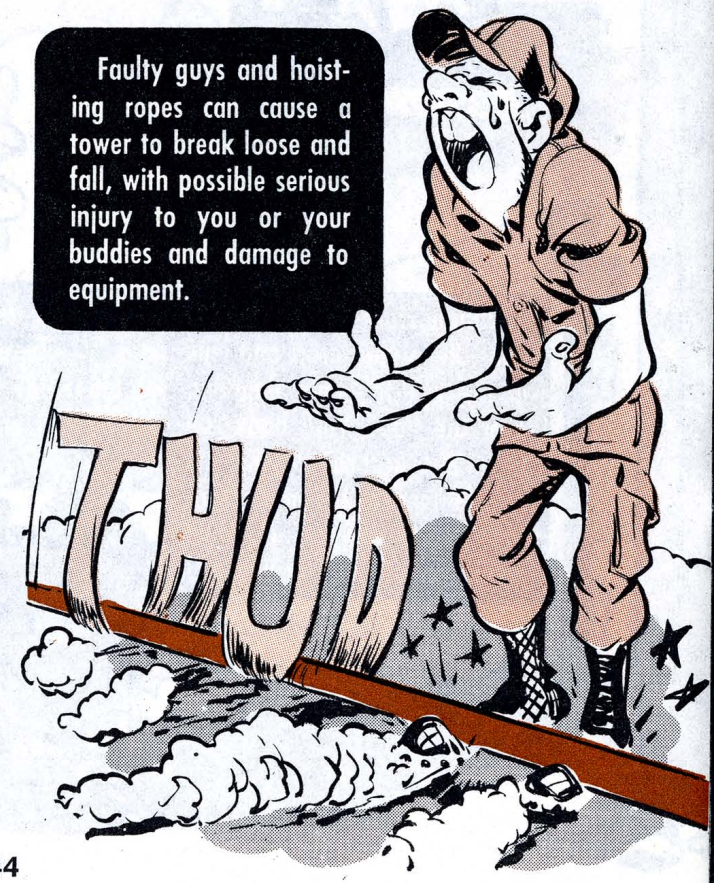
Watch it — Beware of touching a structure, or any attachment, if there's any possibility that it could be electrically energized "hot." Any area around a structure that might be "hot" should be roped off and guards posted to keep people away. When there's an electrical storm, or when a storm's heading in, don't do any work on a structure.



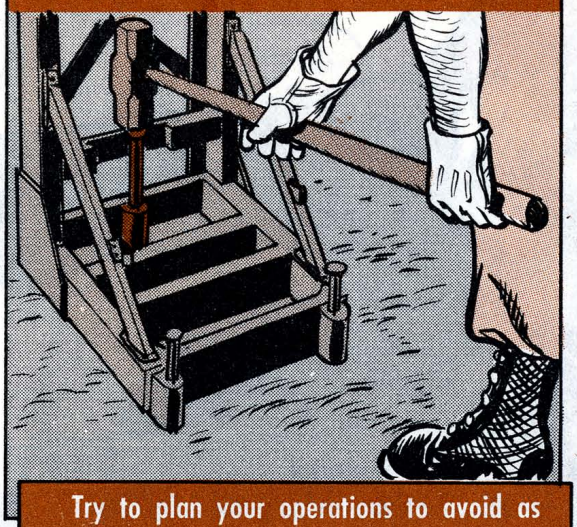
Do not fasten guys over sharp-edged surfaces which can cut the guys. If it turns out to be absolutely necessary to attach guys in this way, pad the guys at the edge-points.

Before starting the installation, inspect all the guys and hoisting ropes for worn spots, frayed areas, rotten spots, and other discrepancies.

Faulty guys and hoisting ropes can cause a tower to break loose and fall, with possible serious injury to you or your buddies and damage to equipment.

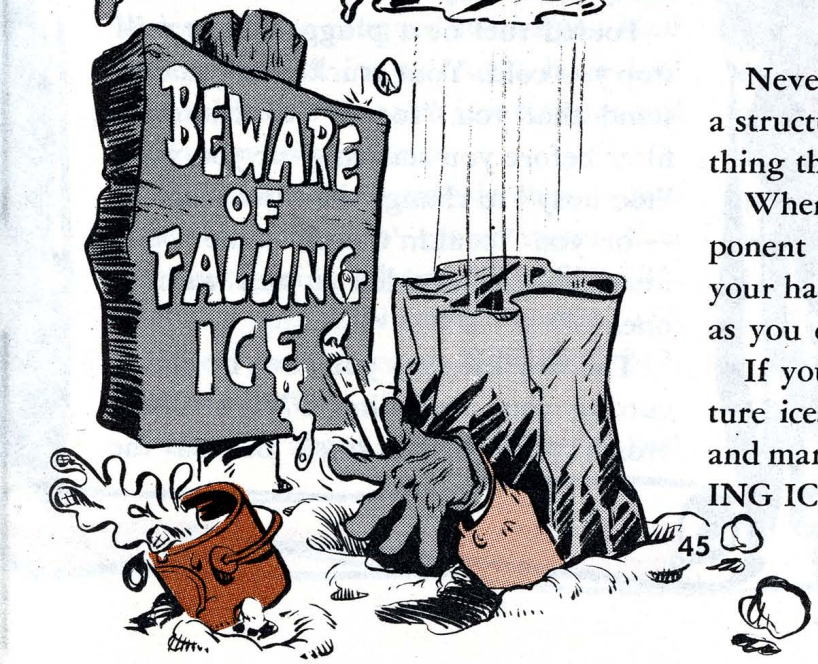


Anchors should be solidly entrenched in the ground. If possible, avoid locations that will have guys crossing roadways.



If you can't duck these dubious locations, mark the guys with orange paint and red flags. Post warning signs to indicate overhead obstructions and their height over the roadway.

Try to plan your operations to avoid as much aerial installation work as possible. Use safety devices called for by the job . . . like safety belts, gloves, safety shoes, and the like.

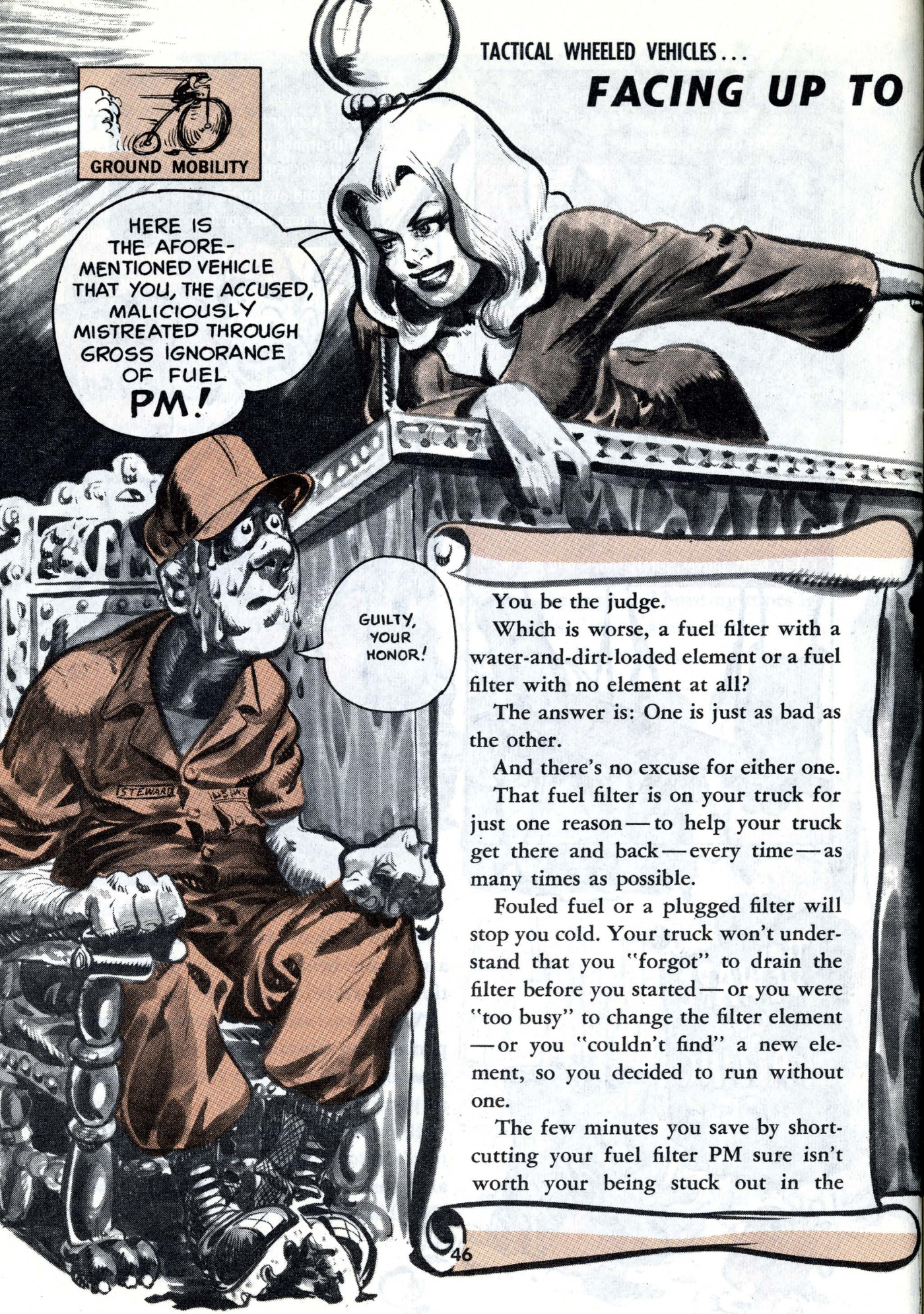


Never walk or stand directly beneath a structure being erected or under anything that's being hoisted.

When you lower an assembly or component by capstan or windlass, keep your hands as far away from the drums as you can.

If you're in an ice area, and a structure ices over badly, rope off the area and mark it with "BEWARE OF FALLING ICE" signs.

PS END



TACTICAL WHEELED VEHICLES . . .

FACING UP TO

You be the judge.

Which is worse, a fuel filter with a water-and-dirt-loaded element or a fuel filter with no element at all?

The answer is: One is just as bad as the other.

And there's no excuse for either one.

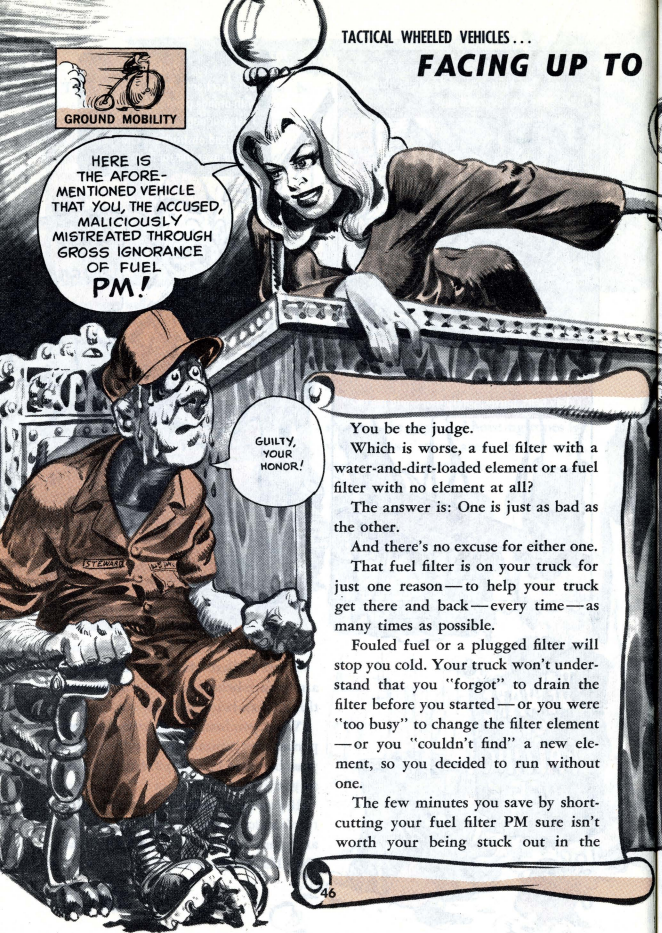
That fuel filter is on your truck for just one reason — to help your truck get there and back — every time — as many times as possible.

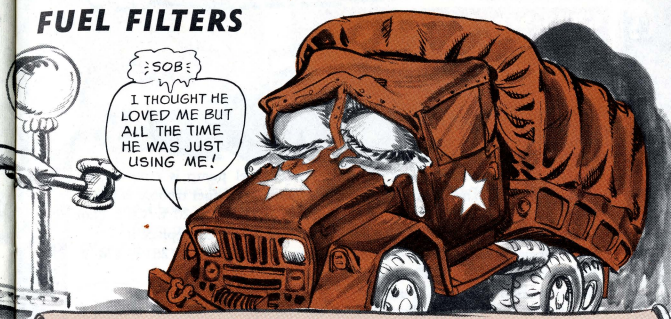
Fouled fuel or a plugged filter will stop you cold. Your truck won't understand that you "forgot" to drain the filter before you started — or you were "too busy" to change the filter element — or you "couldn't find" a new element, so you decided to run without one.

The few minutes you save by short-cutting your fuel filter PM sure isn't worth your being stuck out in the

TACTICAL WHEELED VEHICLES...

FACING UP TO FUEL FILTERS





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The few minutes you save by short-cutting your fuel filter PM sure isn't worth your being stuck out in the boonies for several hours! The cost of a new filter element is a heckuva lot less than the cost of makin' things right back in the shop!

Some trucks need only a little fuel filter PM. Some get a little more. But it's no back-breakin' job on any of 'em. On some you take off the whole filter, throw it away 'n' hook up a new one. Then there're those metal filter elements that you clean and put back — unless they're plugged so bad you need a new one. A lot of trucks have fuel filter elements that you just toss out and replace with new ones.

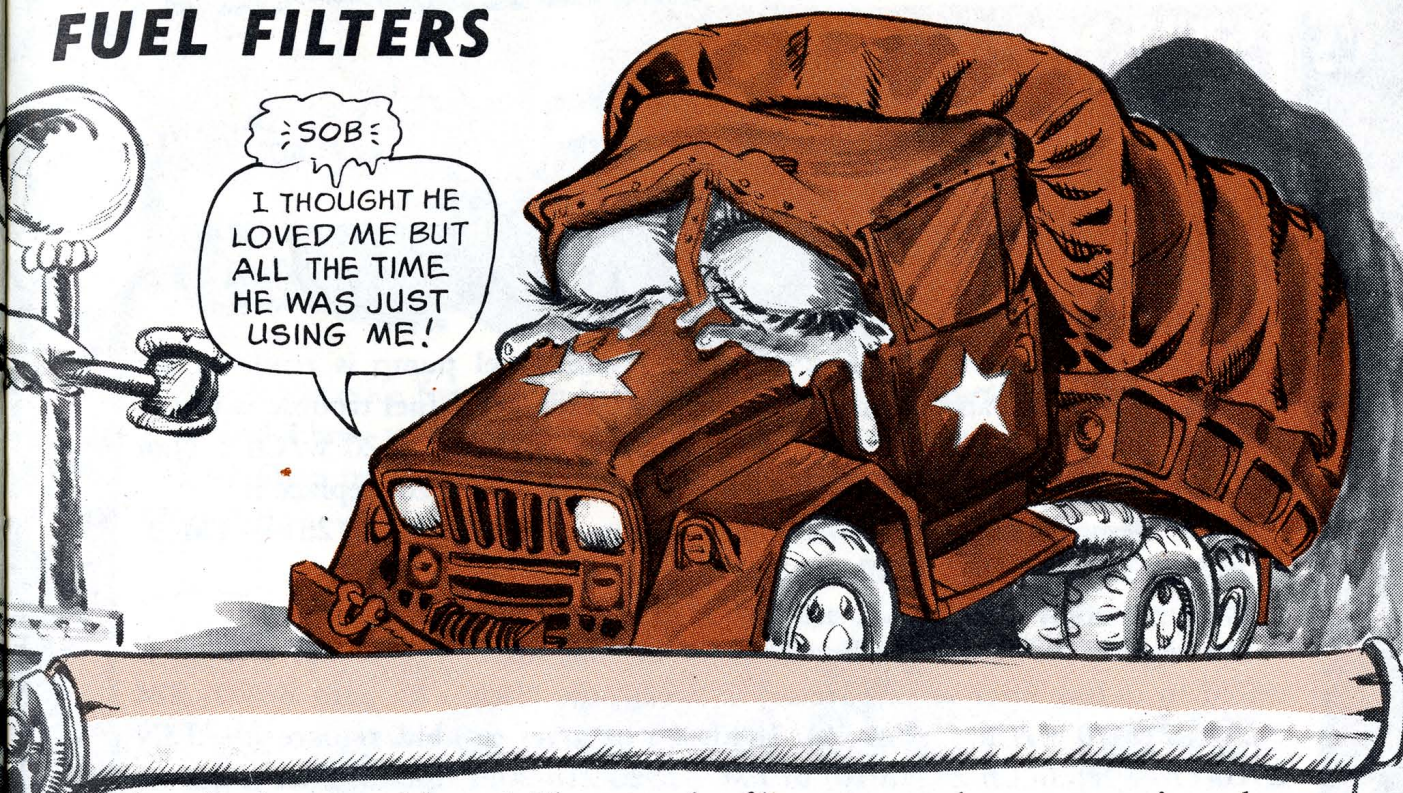
Cleaning those metal elements — and filter housings, too — is no sweat. You use drycleaning solvent, FSN 6850-281-1985 (1 gal), FSN 6850-285-8012 (55 gal), or paint thinner, FSN 8010-242-2089 (1 gal).

There're about a dozen different fuel filter setups when you get into those trucks ranging from 1/4-ton thru 10-ton. And you may find the setup different on a newer version of the same model truck. On top of this, experience in the field sometimes leads to a change in the way filters are serviced or a change in the interval. And FSN's for filters may change. So make sure you've got the current TM's for your vehicle and all the current changes to those TM's.

On some vehicles, the operator has to drain 1 or more fuel filters every day before taking off. And some filters call for the unit mechanic to change filter elements at specified intervals (or local SOP may authorize the operator to do this).

The way things stand right now, here's a rundown on what gets what and who normally does it.

FUEL FILTERS



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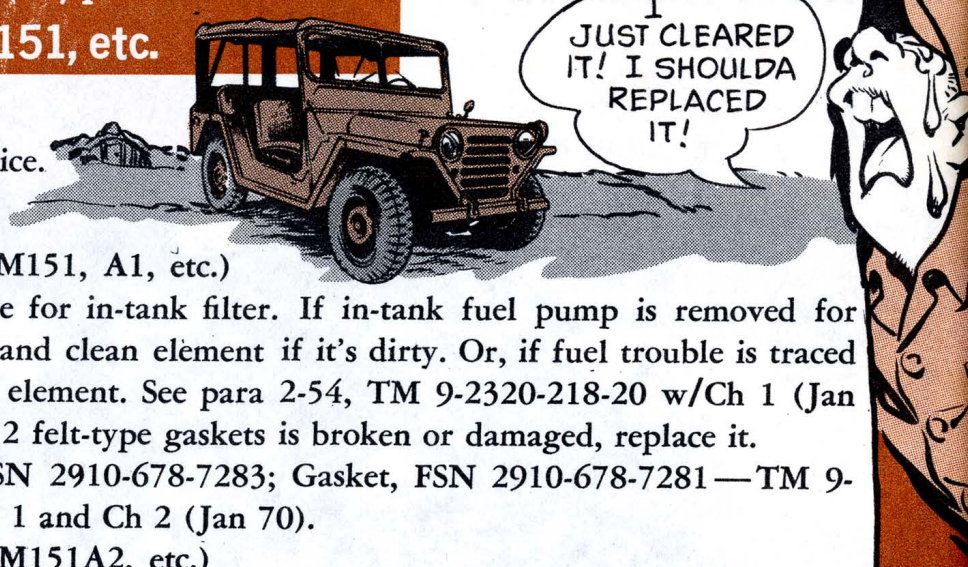
P.S MORE

G838-Series ¼-Ton Truck
M151, etc.



Operator:

No fuel filter service.

Mechanic:

(Older models—M151, A1, etc.)

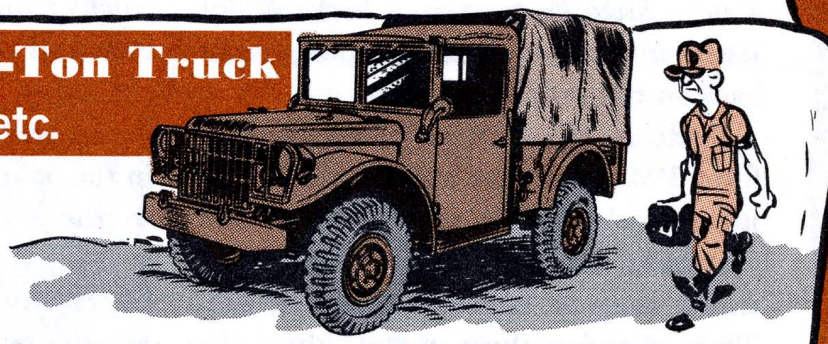
No regular service for in-tank filter. If in-tank fuel pump is removed for service, check filter and clean element if it's dirty. Or, if fuel trouble is traced to filter, replace the element. See para 2-54, TM 9-2320-218-20 w/Ch 1 (Jan 70). If either of the 2 felt-type gaskets is broken or damaged, replace it.

Filter element, FSN 2910-678-7283; Gasket, FSN 2910-678-7281—TM 9-2320-218-20P w/Ch 1 and Ch 2 (Jan 70).

Newer models—M151A2, etc.)

No regular service for in-line filter or in-tank filter. When fuel trouble is traced to in-line filter at carburetor, backflush the filter—see para 2-54.1, TM 9-2320-218-20 w/Ch 1 (Jan 70). If filter still gives trouble, replace it—FSN 2910-176-8928 in Ch 2 (Jan 70) to TM 9-2320-218-20P. In-tank filter needs no service (it's self-cleaning) and is a non-stock item.

G741-Series ¾-Ton Truck
M37B1, etc.



Operator:

No fuel filter service.

Mechanic:

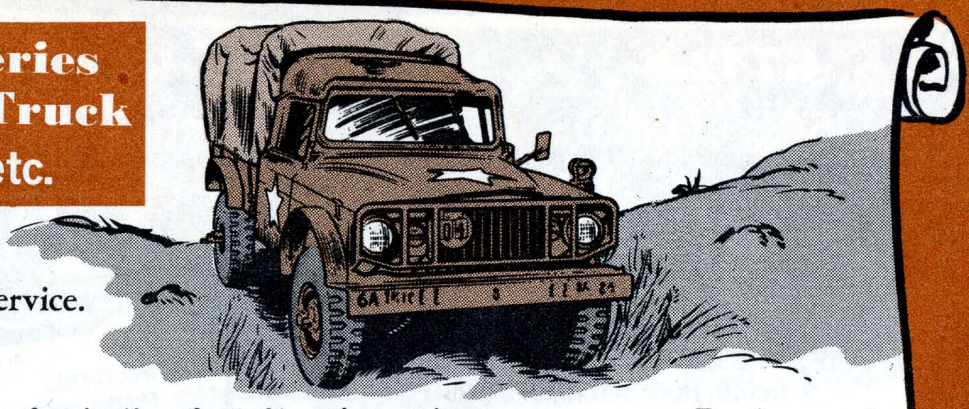
Regular service for fuel filter in engine compartment (older vehicles, up to and including Serial No. 80042292). Replace filter element and clean sediment bowl every 6,000 miles or 6 months. See para 139b, TM 9-8030 w/Ch 8 and Ch 9 (Jun 68). Use new gaskets on sediment bowl and sediment bowl nut.

Element, FSN 2910-455-4033; Gasket, sediment bowl, FSN 5330-741-0175; Gasket, sediment bowl nut, FSN 5330-734-7647—TM 9-2320-212-20P w/Ch 3 (Jun 70).

No regular service for in-tank fuel filter (newer vehicles, after Serial No. 80042292). Clean filter retaining plates and element only when filter is removed for fuel tank servicing or when fuel trouble is traced to filter. See para 139c, TM 9-8030 w/Ch 8 and Ch 9. Use new gasket for fuel tank cover when re-installing filter. If filter can't be cleaned, use a new element.

Gasket, FSN 5330-741-3013; Element, FSN 2910-735-1316 (exhausted to FSN 2910-955-2010)—TM 9-2320-212-20P w/Ch 3 (Jun 70).

G890-Series 1¼-Ton Truck M715, etc.



Operator:

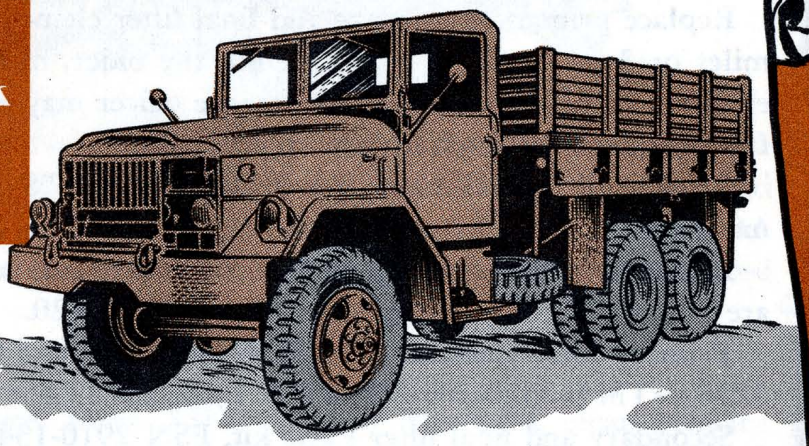
No fuel filter service.

Mechanic:

Regular service for in-line fuel filter in engine compartment. Replace entire filter and 2 hose sections every 12,000 miles or 12 months.

Fuel filter parts kit, FSN 2540-900-3162—TM 9-2320-244-20P (w/Ch 1 (May 70).

G742-Series 2½-Ton Truck M35, etc. (gasoline engine)



Operator:

No fuel filter service.

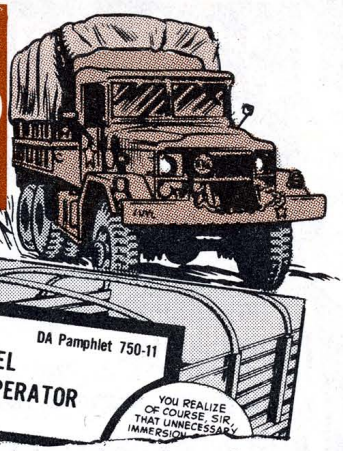
Mechanic:

No regular service. Replace in-tank fuel filter element only when it is found to be cause of fuel system trouble. Replace entire filter assembly when unserviceable due to damage or corrosion. Always use new Gasket when filter is removed from tank and reinstalled.

Filter element, FSN 2910-735-1316 or (new number) FSN 2910-955-2010; Gasket, cover plate, FSN 2910-753-9119; Filter Assy, FSN 2910-739-7840.

PS MORE

G742-Series 2½-Ton Truck
M35A1, etc. (LDS 427-2 Multifuel engine)
M35A2, etc. (LD 465-1 Multifuel engine)



Operator:

See DA Pam 750-11 (May 68), page 7.

ORDER FROM BALTIMORE PUB CENTER ON DA FORM 17

Daily, before operation, drain primary fuel filter into clean glass jar (do not drain completely—just enough for examination). Check for dirt or water. If fuel is contaminated, continue to drain and check small amounts until fuel runs clear.

If there's a lot of dirt or water in primary filter, make same check on secondary filter until fuel runs clear.

If secondary filter is loaded with dirt or water, make just one check of final filter. Any contamination of final fuel filter means you report the condition on your DA Form 2404 for cleaning of primary filter and replacement of secondary and final filter elements. If possible, filters should be serviced before operating vehicle.

Mechanic:

Regular fuel filter service. Also possible as-needed service (when vehicle operator reports contaminated fuel in final filter).

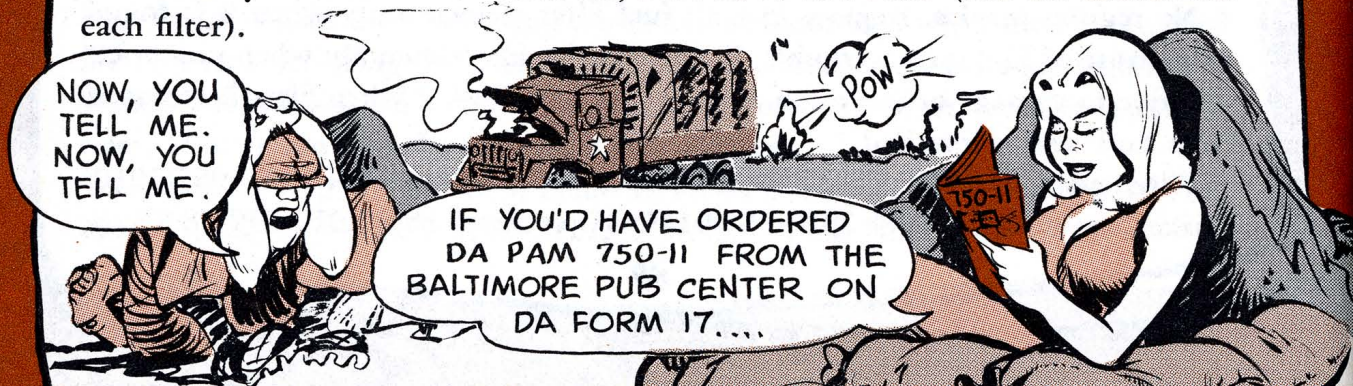
Replace primary, secondary and final filter elements and gaskets every 3,000 miles or 3 months. Or, if you've got the older, metal disc-type primary filter element, you just clean it. (Maintenance officer may establish schedule for more frequent, or even less frequent, service.)

Inspect all 3 fuel filters for leaks at every "S" service (6,000 miles or 6 months).

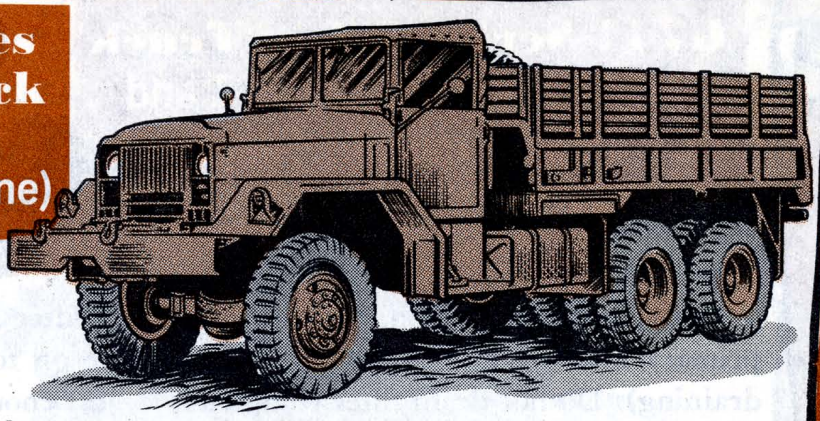
Instructions for servicing all 3 fuel filters—primary, secondary and final—are in para 77, Ch 3 (Aug 68), TM 9-2320-209-20.

Primary filter element, FSN 2910-790-2300, and Gasket set, FSN 2910-678-3298—TM 9-2320-209-20P w/Ch 1 and Ch 2 (Apr 69).

Secondary and final filter Parts kit, FSN 2910-134-7835 (one kit needed for each filter).



G744-Series 5-Ton Truck M54, etc. (gasoline engine)



Operator:

Daily, before operation, drain water and sediment from fuel filter under left front fender.

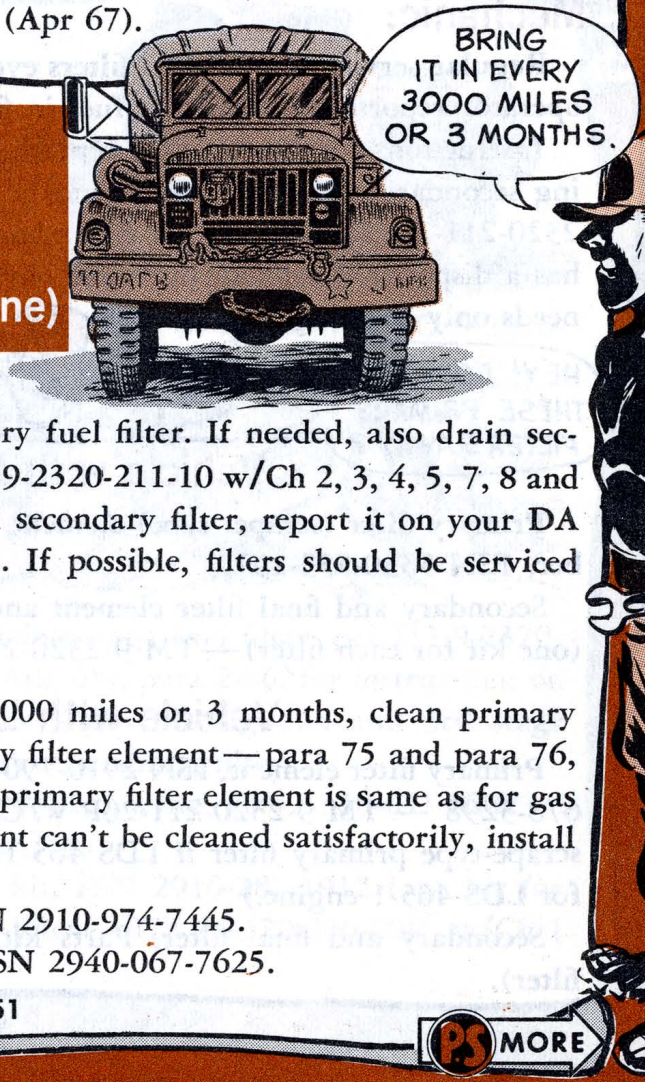
Mechanic:

Regular fuel filter service. Semiannually, clean bowl and element—para 64, TM 9-2320-211-20.

Install new gaskets every time filter is disassembled. If filter element can't be cleaned satisfactorily, use a new element.

Gasket set (3 gaskets), FSN 2910-360-8298; Element, FSN 2910-455-8085—TM 9-2320-211-20P (w/Ch 1 and 2 (Apr 67).

G744-Series 5-Ton Truck M54A1, etc. (Mack ENDT 673 diesel engine)



Operator:

Daily, before operation, drain primary fuel filter. If needed, also drain secondary filter—para 13b, page 32, TM 9-2320-211-10 w/Ch 2, 3, 4, 5, 7, 8 and 9 (May 69). If there's dirt or water in secondary filter, report it on your DA Form 2404 for servicing of both filters. If possible, filters should be serviced before operating vehicle.

Mechanic:

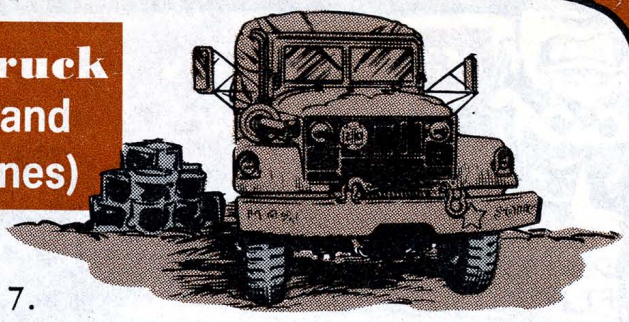
Regular fuel filter service. Every 3,000 miles or 3 months, clean primary filter element and install new secondary filter element—para 75 and para 76, TM 9-2320-211-20. Cleaning of diesel primary filter element is same as for gas job—para 64 in the -20 TM. If element can't be cleaned satisfactorily, install a new element.

Primary filter element w/gasket, FSN 2910-974-7445.

Secondary filter element w/gasket, FSN 2940-067-7625.

PS MORE

G744-Series 5-Ton Truck M54A2, etc. (LDS 465-1 and LDS 465-1A multifuel engines)



Operator:

See DA Pam 750-11 (May 68), page 7.

Daily, before operation, drain primary fuel filter into clean glass jar (if your primary filter is the scraper-type, give handle on top 2 complete turns before draining). Do not drain filter completely — just enough for examination. Check for dirt or water. If fuel is contaminated, continue to drain and check small amounts until fuel runs clear.

If you find a lot of dirt or water in the primary filter, make same check on secondary filter until fuel runs clear.

If fuel in secondary filter is badly contaminated, check just one sample from your final filter. Any dirt or water in the final fuel filter means you report this condition on your DA Form 2404 for service of all 3 filters. If possible, filters should be serviced before operating vehicle.

Mechanic:

Regular service of all 3 fuel filters every 3,000 miles or 3 months. Also when operator reports contaminated fuel in final filter.

Instructions for cleaning (or replacing) primary filter element and for replacing secondary and final filter elements are in para 83.9, Ch 3 (Nov 66), TM 9-2320-211-20. The non-scraper-type primary filter for most LDS 465-1A engines has a disposable element, but some have the older, metal disc-type element that needs only cleaning.

Vehicle with LDS-1 Engine

Primary filter (scraper-type) element, FSN 2910-350-6850; Washer, syn rubber, FSN 5330-533-1977.

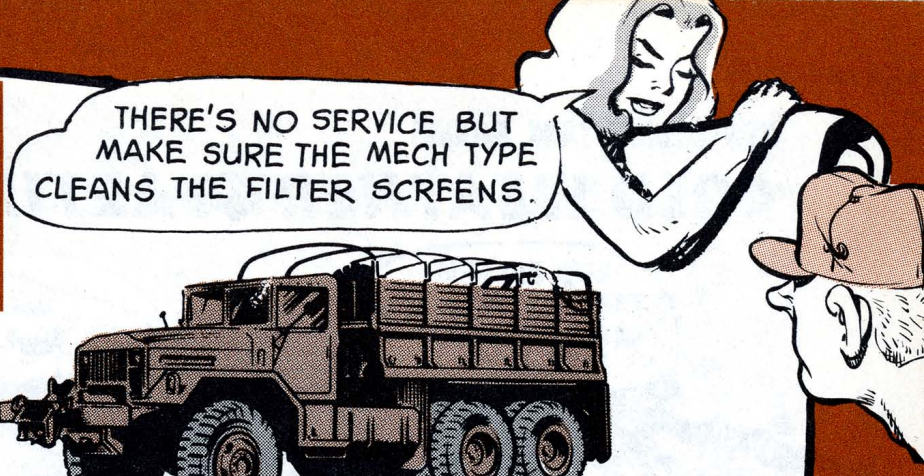
Secondary and final filter element and gasket, Parts kit, FSN 2940-067-7625 (one kit for each filter) — TM 9-2320-211-20P w/Ch 1 and 2 (Apr 67).

Vehicle with LDS-1A Engine

Primary filter element, FSN 2910-790-2300; Gasket set (3 gaskets), FSN 2910-678-3298 — TM 9-2320-211-20P w/Ch 1 and 2. (This vehicle may have the scrape-type primary filter if LDS 465-1A engine was installed as a replacement for LDS 465-1 engine.)

Secondary and final filter, Parts kit, FSN 2910-134-7835 (one kit for each filter).

G792-Series 10-Ton Truck M125, etc. (gasoline engine)



Operator:

No fuel filter service.

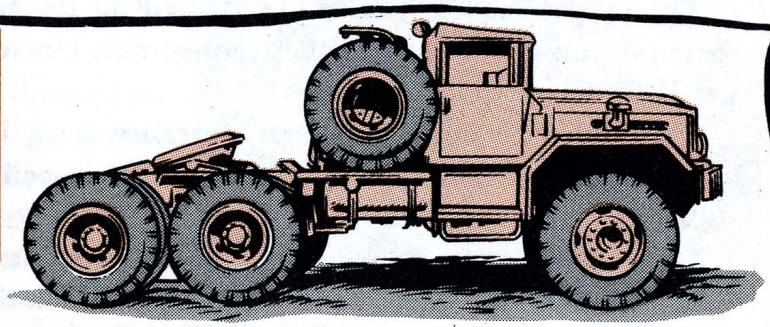
Mechanic:

No regular filter service. However, "S" service calls for draining water and sediment from fuel tanks.

When fuel trouble is traced to in-tank fuel filter, clean filter screens according to para 2-78d, TM 9-2320-206-20 w/Ch 1 (Aug 68). Always use new gaskets when servicing filter. If filters can't be cleaned satisfactorily, get a new fuel pump, FSN 2910-699-7904.

Gasket, fuel filter, FSN 2910-832-7750—TM 9-2320-206-20P w/Ch 1 and 2 (Mar 70).

G792-Series 10-Ton Truck M123A1C (diesel engine)



Operator:

Weekly, drain water from triple-stage fuel filter, as specified in LO 9-2320-206-12 (Mar 66).

Mechanic:

Semiannually or 3,000 miles, service triple-stage fuel filter, per LO 9-2320-206-12. See TM 9-2320-206-20 w/Ch 1 (Aug 68), para 2-86, for instructions on cleaning (or replacing) 1st stage strainer and replacing 2nd and 3rd stage elements. Always use new gaskets when reassembling filters.

Primary filter strainer, FSN 2910-785-6581; Gasket, FSN 5330-641-0202—TM 9-2320-206-20P w/Ch 1 and 2 (Mar 70).

Second and third stage element Parts kit, FSN 2910-287-1912 (one kit for each filter); Gasket, same as for Primary filter—TM 9-2320-206-20P w/Ch 1 and 2 (Mar 70).

P.S END

NEW MEDIUM TANK ENGINES...

COLD WEATHER STARTING HAZARD

The newer the AVDS 1790-2A engine in your medium tank, the more likely you are to ruin it—unless you read the fine print in your lube order.

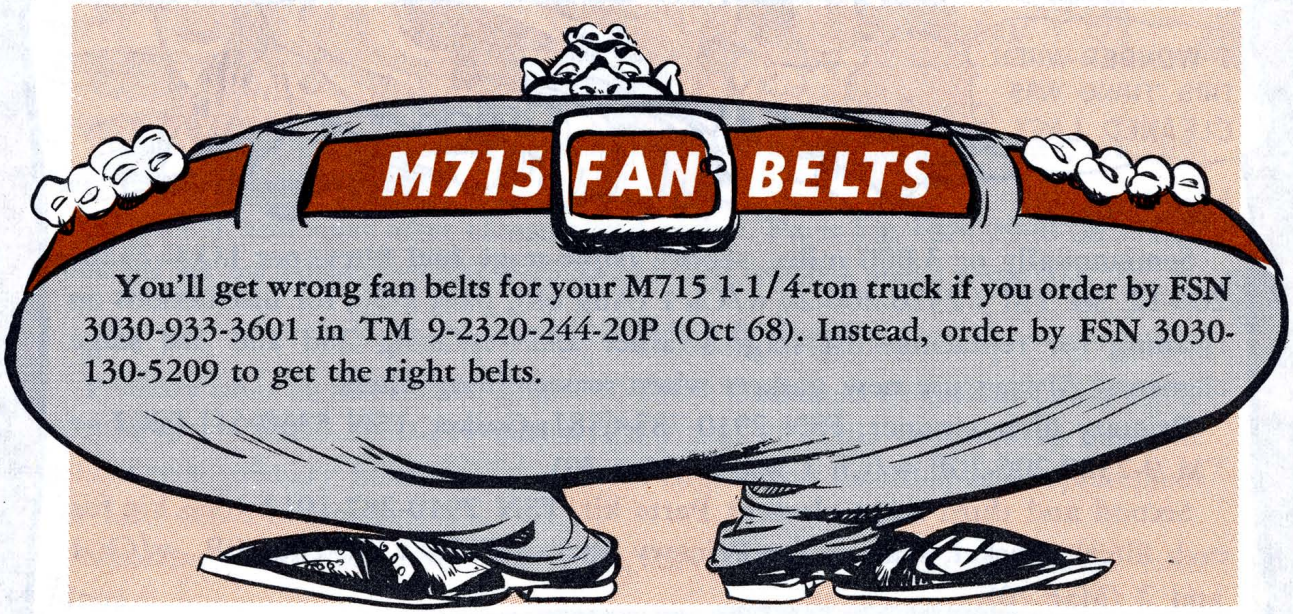
The oil pump impeller drive shafts broke on several of these engines that were operated in temperatures of +10°F or lower **with OE 30 oil in the crankcase.**

Like it says near the bottom of Note 1 in the LO: "+40°F to −10°F use OE 10."

The operators who put in OE 10 had no trouble. Those who didn't, broke their oil pumps, and it cost their not-so-rich Uncle several thousand dollars to get them fixed.

The newer the engine, the less clearance there'll be at the pump impeller end and the more pressure there will be on the impeller gears if thick OE 30 oil is used, when it's too cold.

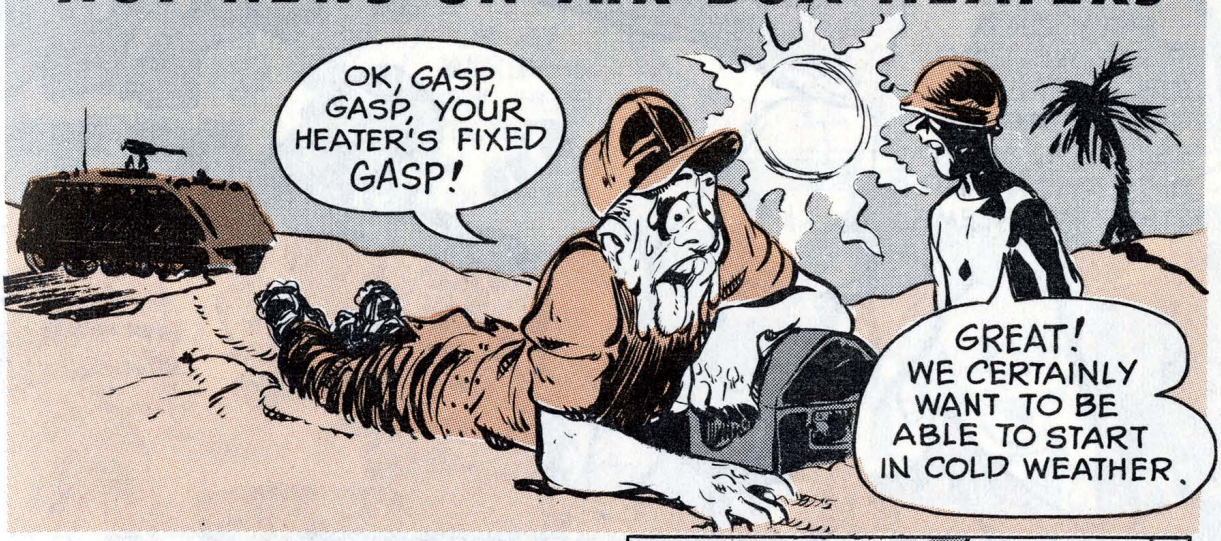
Some design changes are being made to give new production oil pumps more clearance. Nevertheless, you'll still have to watch the temperature, and if it falls to +40°F or below, drain out the OE 30 and put in OE 10—like the LO says.



You'll get wrong fan belts for your M715 1-1/4-ton truck if you order by FSN 3030-933-3601 in TM 9-2320-244-20P (Oct 68). Instead, order by FSN 3030-130-5209 to get the right belts.

M113A1 FAMILY . . .

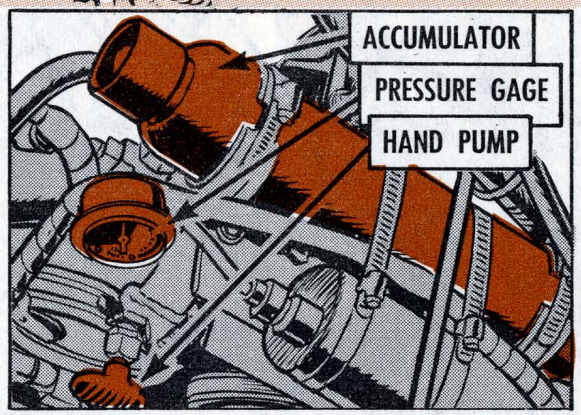
HOT NEWS ON AIR BOX HEATERS



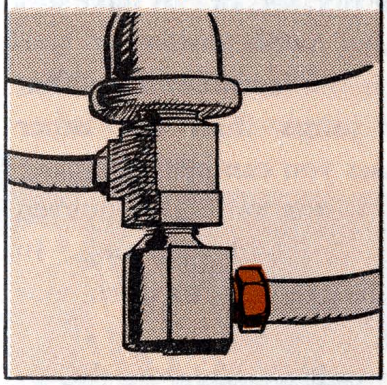
The air box heaters on all members of the M113A1 family of carriers are like eggs: They can go bad on you without being used.

You can get leakage and damage at the accumulator, pressure gage and hand pump—even when the air box heater system is just sitting there.

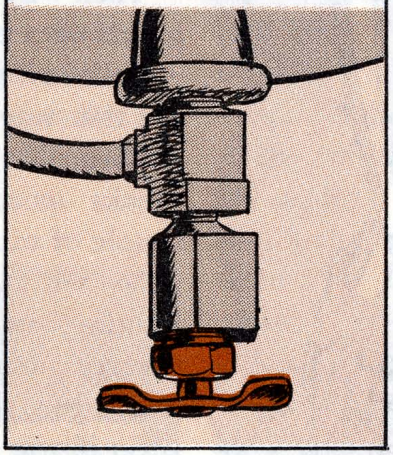
So-o-o-o, here's what to do . . .



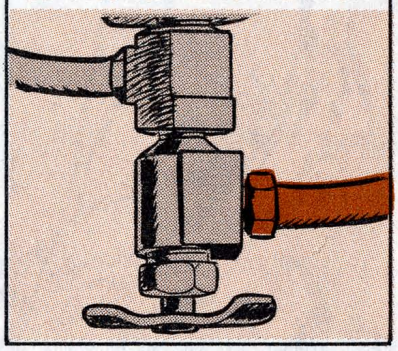
Unscrew elbow FSN 4730-014-3343 connecting the secondary fuel filter to the hose that runs between the filter and the hand pump.



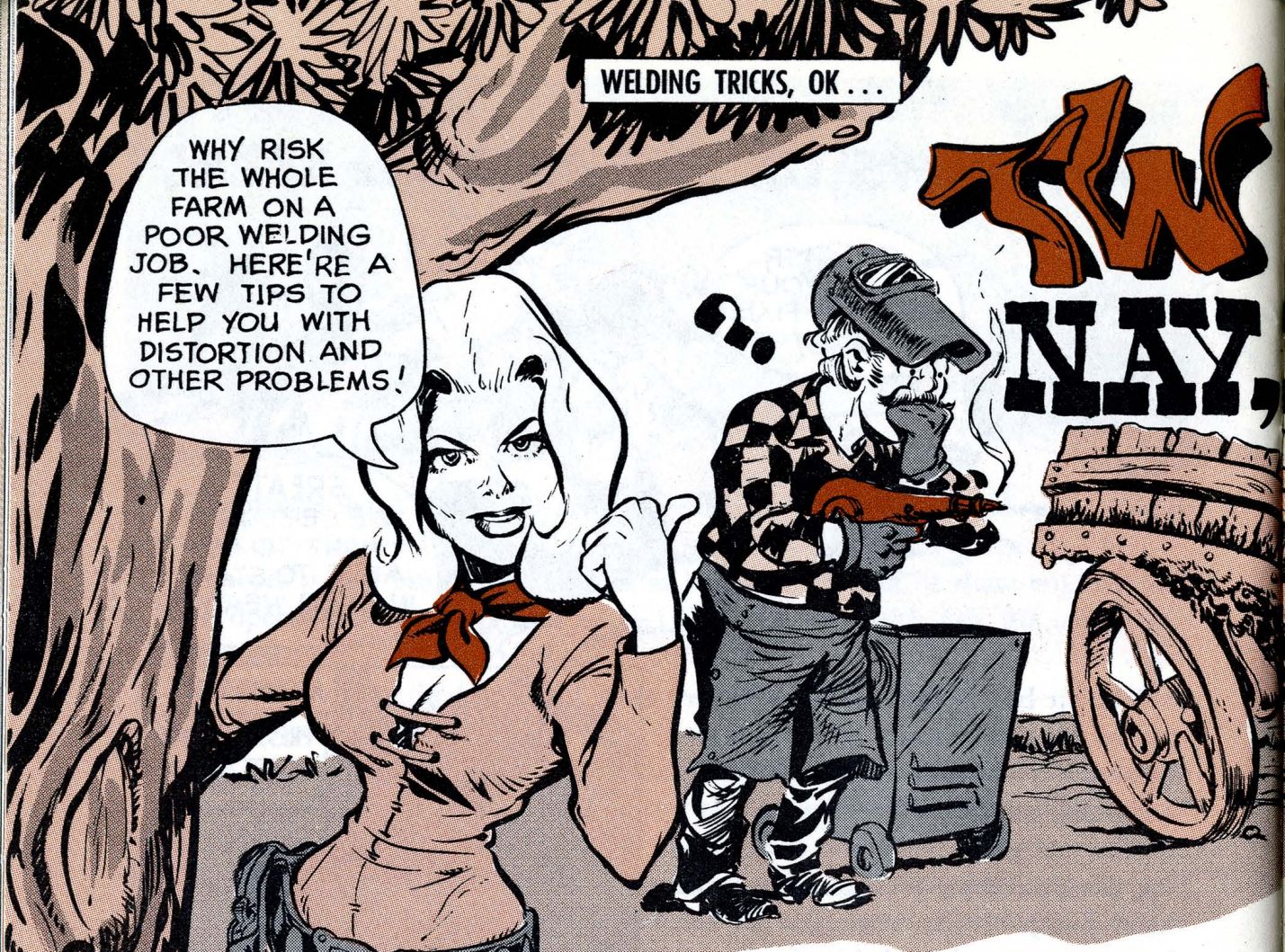
Throw away the elbow and replace it with shut-off cock, FSN 4820-288-7433.



Now hook up the hose line again. For most members of the M113A1 family this'll be hose FSN 2990-010-0280. For the M548, XM727 and XM730 it'll be hose FSN 2910-912-9109.



Keep the cock closed all the time except when the air box heater is actually being used for a cold weather start. Your air box heater will last a lot longer that way and give you fewer problems.



You don't like sucker bets? You cut the deck, you check the cubes for shaved edges, and you lay down no money without good odds, right?

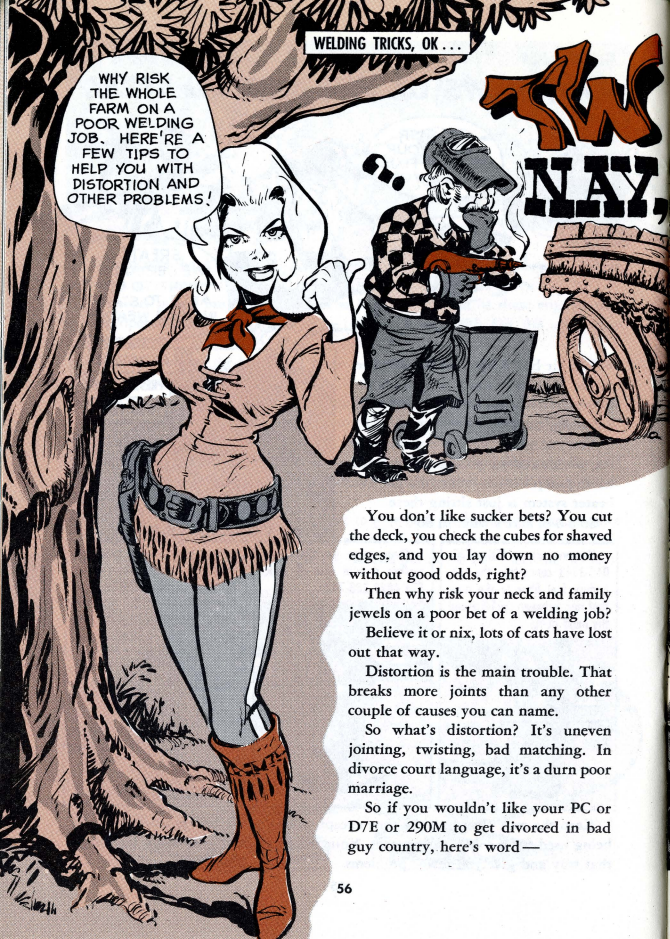
Then why risk your neck and family jewels on a poor bet of a welding job?

Believe it or nix, lots of cats have lost out that way.

Distortion is the main trouble. That breaks more joints than any other couple of causes you can name.

So what's distortion? It's uneven jointing, twisting, bad matching. In divorce court language, it's a durn poor marriage.

So if you wouldn't like your PC or D7E or 290M to get divorced in bad guy country, here's word—



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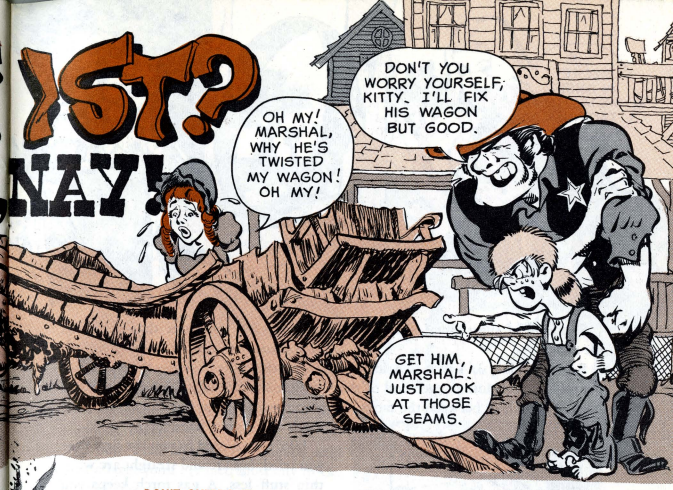


DON'T OVERDO IT

Overheat causes most bum joints. The overdose can be all over, or just in some places. Either way, it mostly comes from trying to lay down more metal than is needed.

Laying metal takes heat—that's elementary. So can you get around overheat by putting down less metal?

Bingo!!! Clang, Clang—Three Bars—Jackpot!!!! You got it!

You set your machine and run your pass to give penetration. That's the secret.

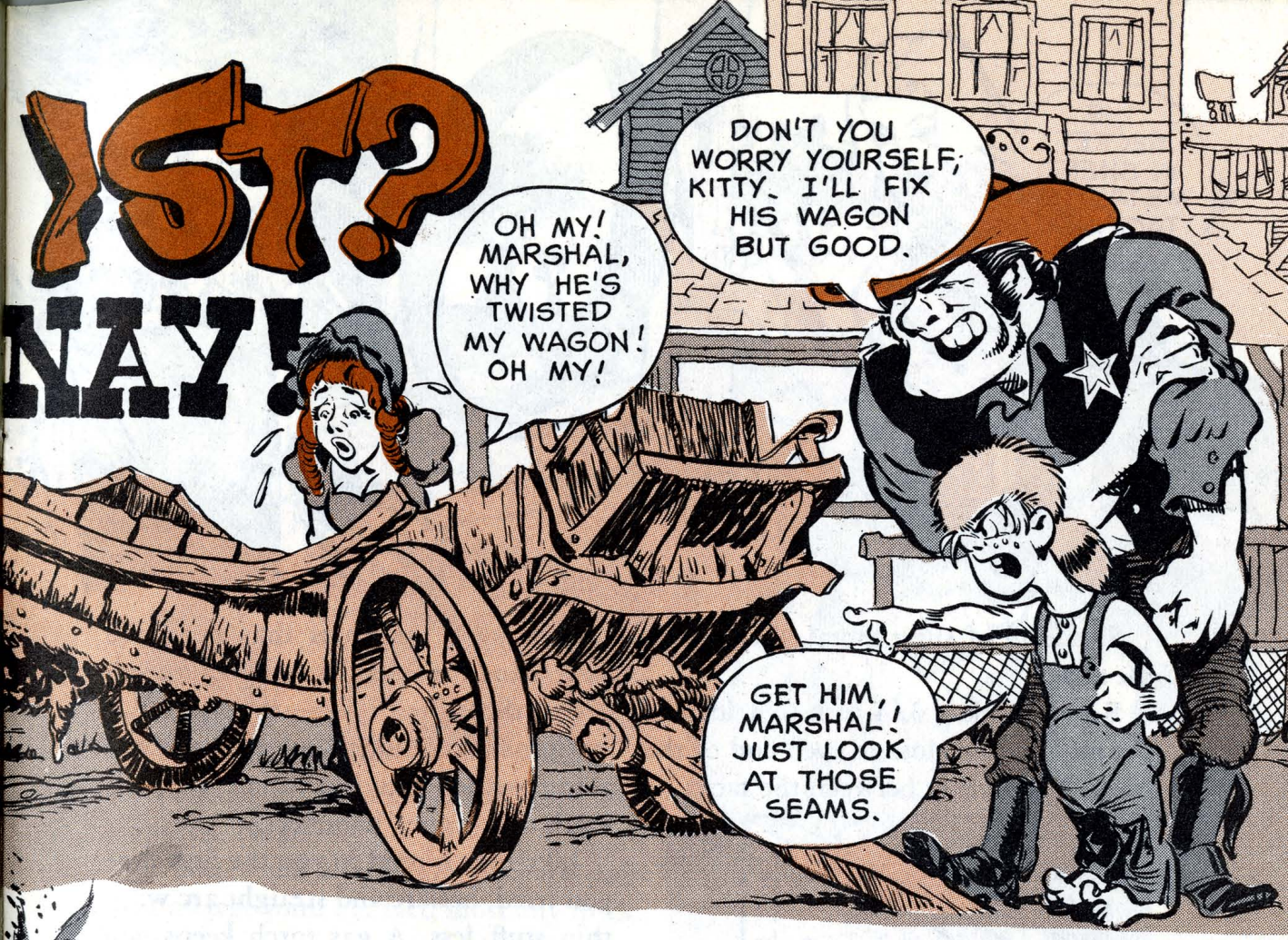
When the input metal goes down into the joint and mixes with the stock being welded, you get the kind of job that will hold. Like you learned about the third day of welding school, you rely a lot on 2 things:

- Use reverse polarity rods and current to match.
- Watch that root bead, the initial weld.

So much for Step One—what next?

It's just as simple: Don't overweld. When you get enough metal built up to hold, stop. It's a good rule not to make the seam any wider than your work is thick . : . on sheet metal you can double that.

MORE



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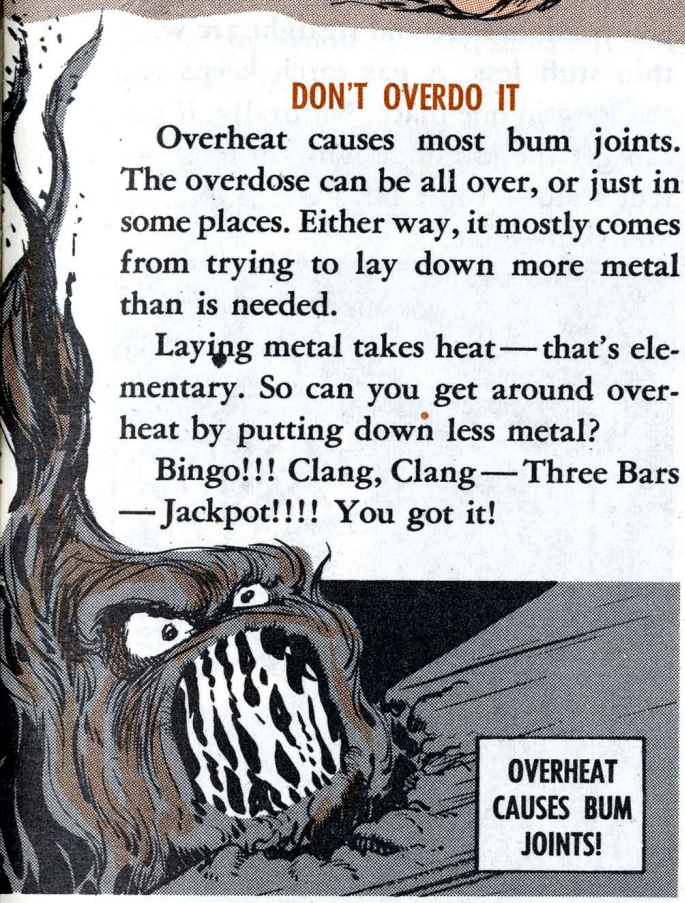

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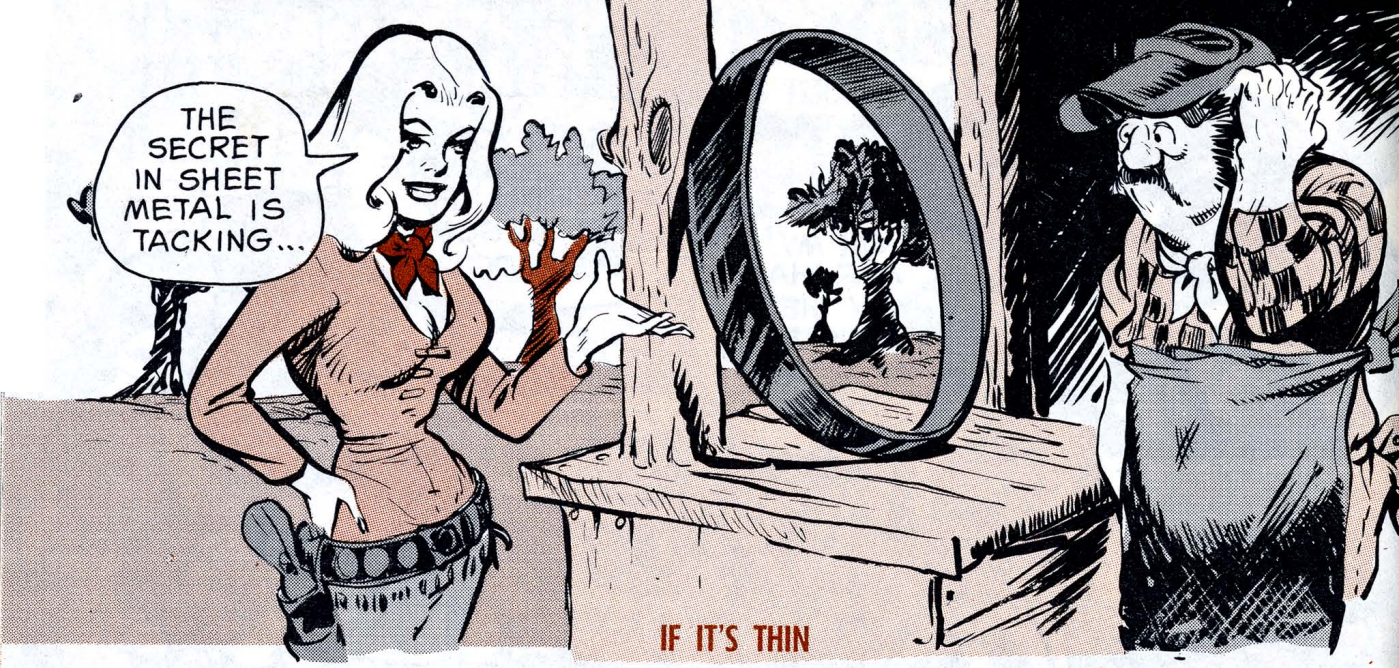
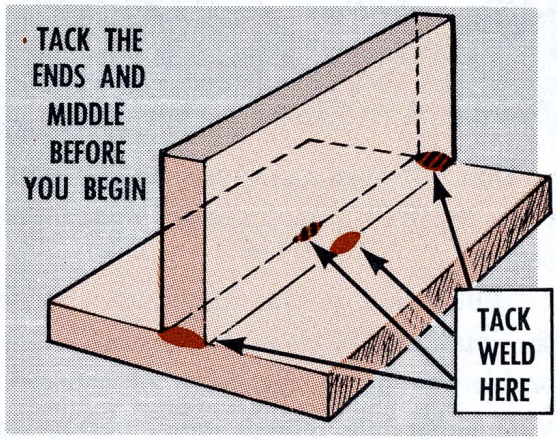


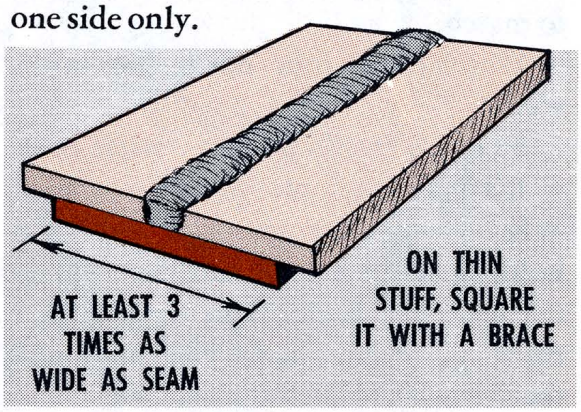
IF IT'S THIN

Speaking of sheet metal, the trick is the tack.

Right. Tack it 3/4 inch to 1 inch in the middle and close to each end of the seam. Then fill in between the tacks.

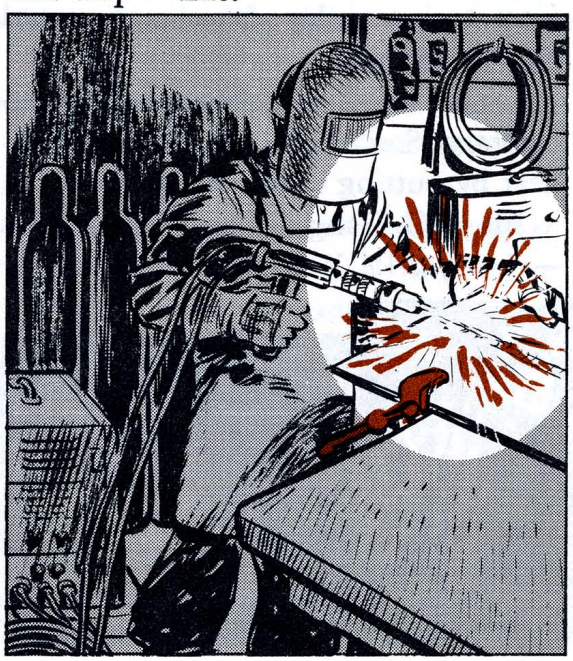


On fenders — like the 30-thousandths-thick variety (f'rinstance, 1/4-ton trucks) use back-up strips. Weld one side only.



And weld the parts that bend the easiest and contract the most before you get to the stiffer ones — then you can straighten out any kinks that come along without having to cut away or reach for bigger hammers.

Like they hinted to you the first time you tried, heliarc and straight arc warp thin stuff less. A gas torch keeps you too long in one place. Naturally, if you can get the job done with an intermittent seam — run a bead and skip, bead and skip — fine.

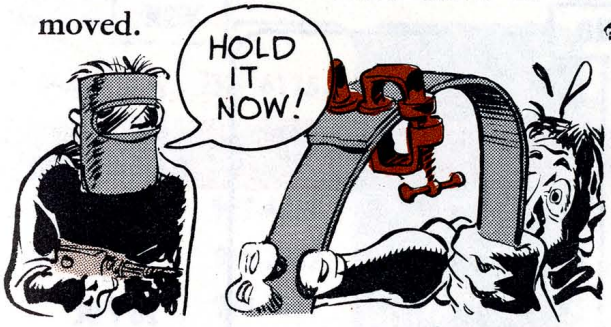


SEVERAL JOINTS

Sure, there's no guarantee that all weld jobs will be clean butts or breaks, or that more than one piece won't have to be matched.

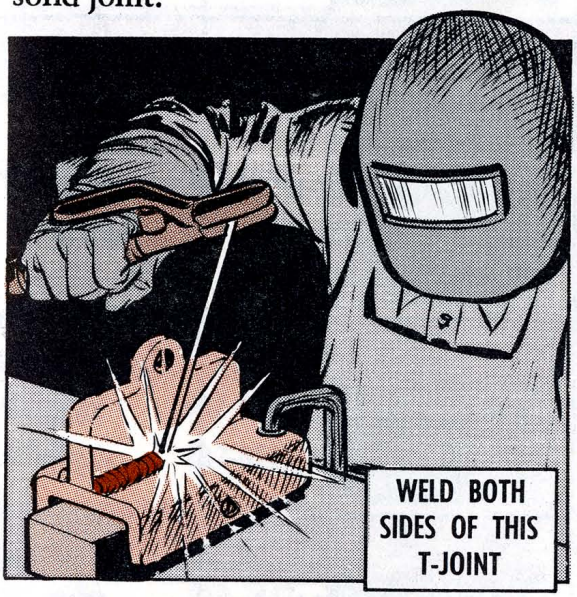
That's when you remember all of the basic rules:

First, you use clamps, strongbacks, fixtures, or jigs, on a good solid support where the work won't have to be moved.



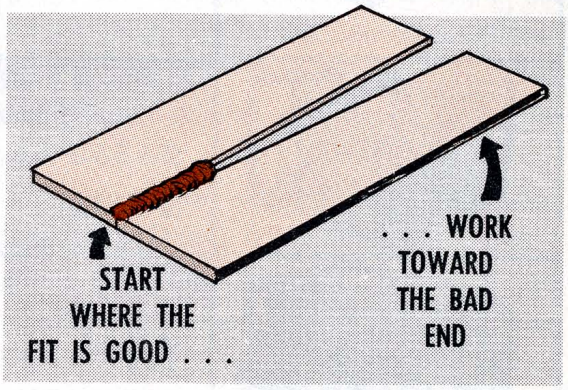
Then you fit to eliminate gaps and spaces. Next—

You weld alternately on each side of a large joint . . . fact, most any thick, solid joint.



You keep down the number of passes —like a bottle of refreshments, it's what's inside that counts, not how thick you lay on cover. A fancy bottle may look great, and a big seam may look strong. But what does the most to hold is the up-cozy line of metal you lead off with.

And start your weld where the fit is best, going toward where it's worst.



Try these tricks and somebody is likely to pay you a compliment—like asking if you were in the business before you got a uniform.

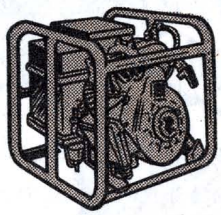
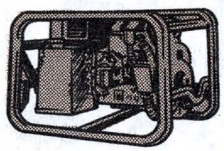
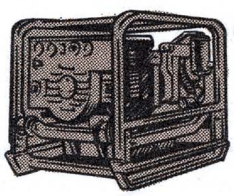
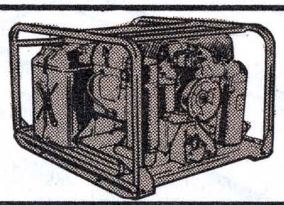
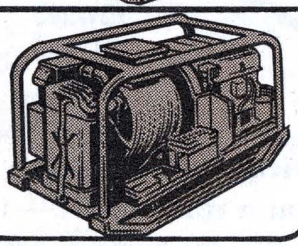
P.S END

PORTABLE POWER ROULETTE . . .

NEW FSN

Numbers can be profitable if you guess right—and for the new lineup on power generators, there's a whole slug of winners out now. Here's an introduction to the list that'll eventually replace all the FSN's formerly listed.

The new SB 700-20 lists the new FSN's which replace 24 old stock numbers with 12. Besides, MIL design generators get new model numbers. You want to see TB 750-971-4 (Oct 70) which instructs using units to obliterate the old

	OLD Model	OLD FSN 6115-	Current
			0.5-KW GROUP
	SF-0.5-MD	935-8694	60 HZ
	HF-0.5-MD	917-7354	400 HZ
	DC-0.5-MD/28	917-7355	28 V DC
			1.5-KW GROUP
	SF-1.5-MD	935-8712, and 736-8509	60 HZ
	DC-1.5-MD/28	906-3686, and 935-8691	28-V DC
			3-KW GROUP
	SF-3.0-MD	075-1640, 879-9734, and 913-9290	60 HZ
	HF-3.0-MD	012-1993, and 937-1794	400 HZ
	DC-3.0-MD	012-1997, 879-9747, and 916-9460	28 V DC
			5-KW GROUP
	SF-5.0-MD	074-8830 and 999-7291	60 HZ
	HF-5.0-MD	930-4816	400 HZ
			10-KW GROUP
	SF-10-MD	075-1641, 907-0614, 935-8632, and 792-8260	60 HZ
	HF-10-MD	937-1793	400 HZ

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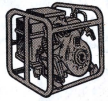

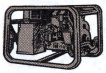

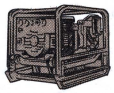

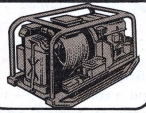

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DC-1.5-MD/28	906-3686, and 935-8691	28-V DC
		3-KW GROUP
SF-3.0-MD	075-1640, 879-9734, and 913-9290	60 HZ
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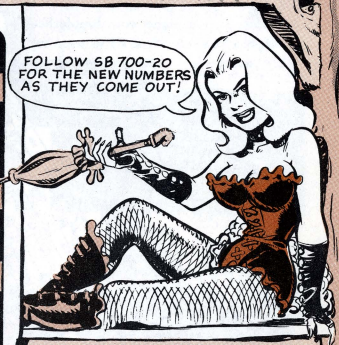
HEDGE BET

FSN and stamp the new FSN and MEP Model number on the ID plate. Now's the time to get your generator stamped with a new FSN.

The numbers to make reports and keep records by are the new ones alongside your LIN. Brand new data plates come by FSN 9905-807-3712, RIC A35. Here's the ball of wax:

NEW Model	FSN 6115-	LIN
MEP-014A	923-4469	J42976
MEP-019A	940-7862	J43027
MEP-024A	940-7867	J42856
MEP-015A	889-1446	J43918
MEP-025A	017-8236	J44055
MEP-016A	017-8237	J45699
MEP-021A	017-8238	J45836
MEP-026A	017-8239	J46110
MEP-017A	017-8240	J47068
MEP-022A	017-8241	J48713
MEP-018A	889-1447	J49398
MEP-023A	926-0843	J49466



15-KW AND UP

More word is scheduled later on larger sets, both diesel-and gasoline-driven. For now, they'll follow the general pattern of one FSN for each type and size.

An exception is, the original old Continental MD sets, 6115-075-1638, won't get new stock listings, and will be phased out. Not all sets will get new FSN's—just those that started life as Military Design rigs. Commercial units continue as before. But supply and MWO problems will ease up, and so will maintenance.

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MEP-016A	017-8237	J45699
MEP-021A	017-8238	J45836
MEP-026A	017-8239	J46110
MEP-017A	017-8240	J47068
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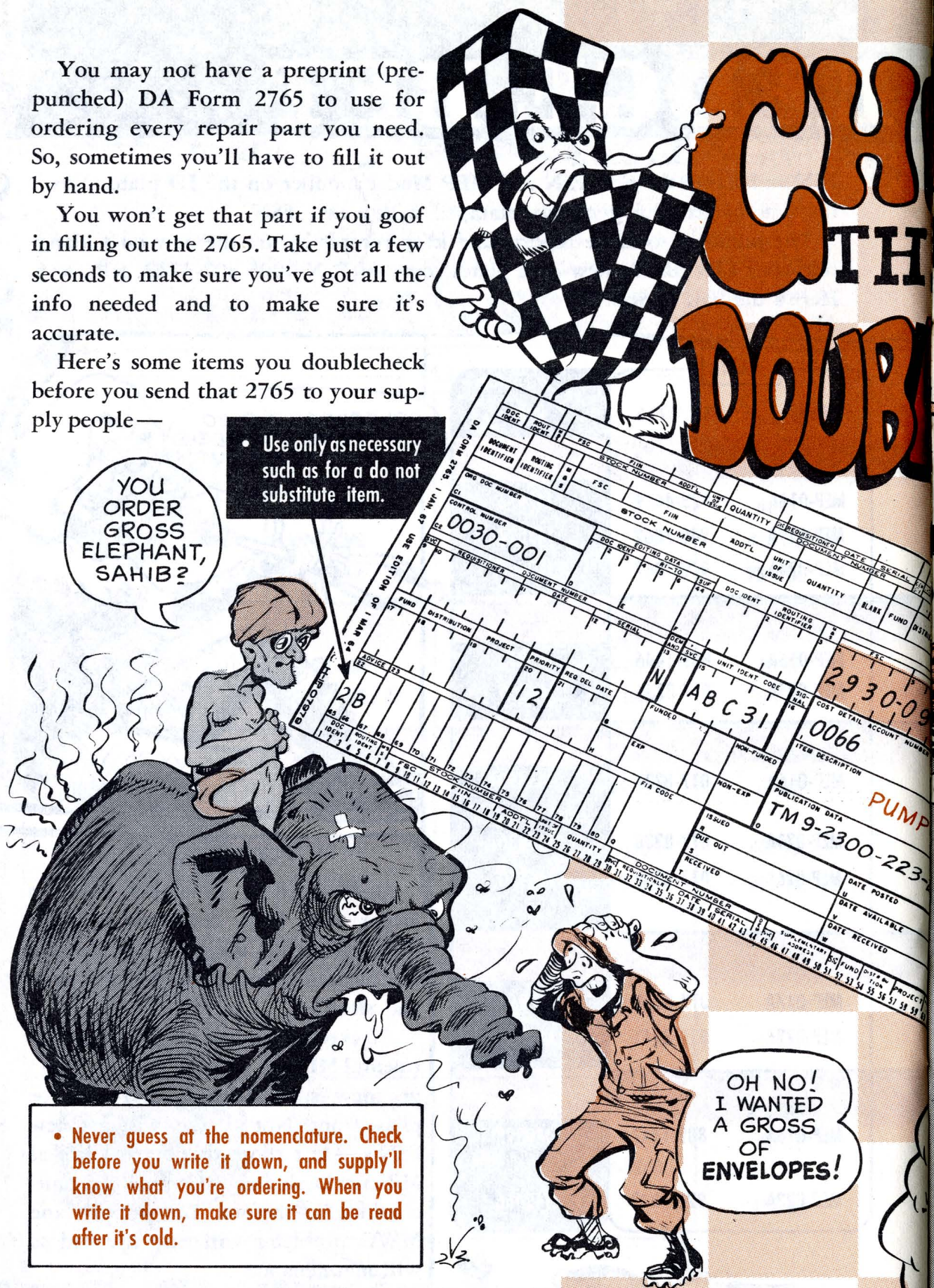
You may not have a preprint (prepunched) DA Form 2765 to use for ordering every repair part you need. So, sometimes you'll have to fill it out by hand.

You won't get that part if you goof in filling out the 2765. Take just a few seconds to make sure you've got all the info needed and to make sure it's accurate.

Here's some items you doublecheck before you send that 2765 to your supply people—



• Never guess at the nomenclature. Check before you write it down, and supply'll know what you're ordering. When you write it down, make sure it can be read after it's cold.

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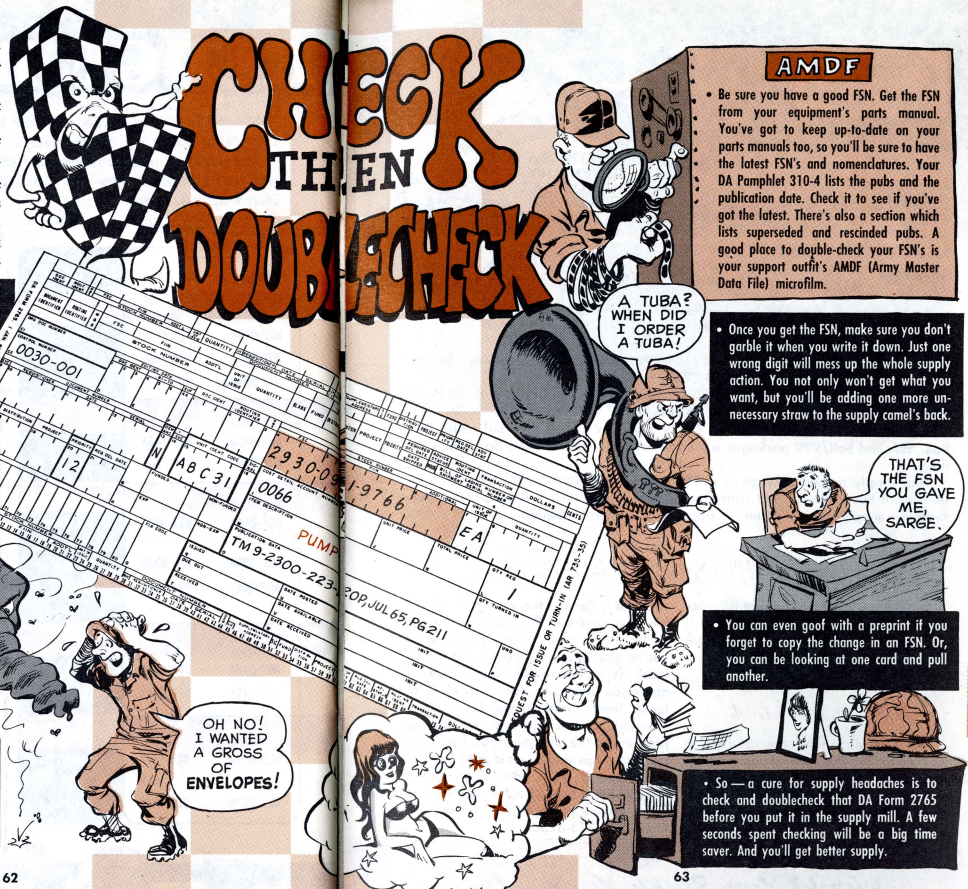
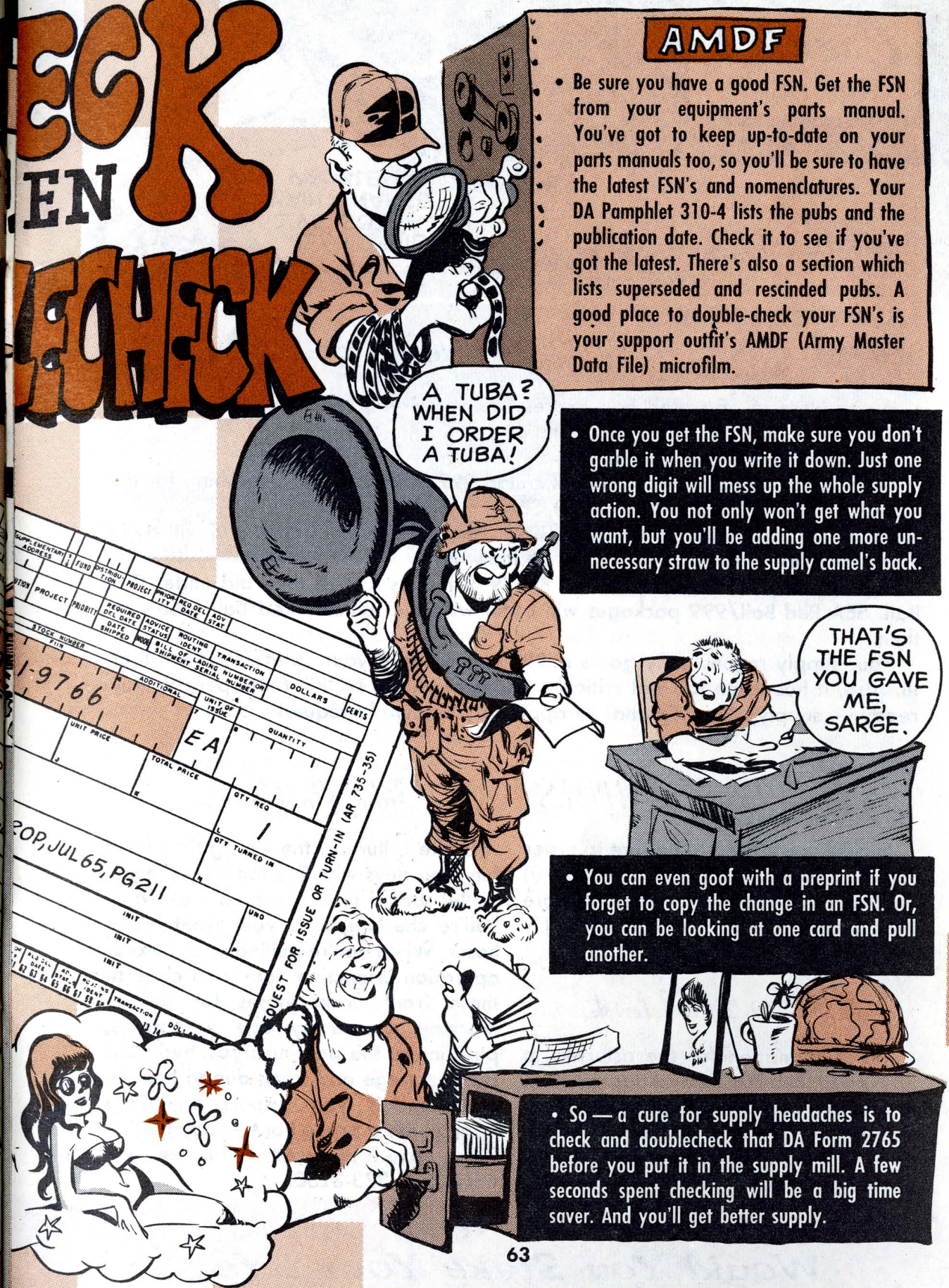


ECK EN LECHECK

AMDF

- Be sure you have a good FSN. Get the FSN from your equipment's parts manual. You've got to keep up-to-date on your parts manuals too, so you'll be sure to have the latest FSN's and nomenclatures. Your DA Pamphlet 310-4 lists the pubs and the publication date. Check it to see if you've got the latest. There's also a section which lists superseded and rescinded pubs. A good place to double-check your FSN's is your support outfit's AMDF (Army Master Data File) microfilm.



- Once you get the FSN, make sure you don't garble it when you write it down. Just one wrong digit will mess up the whole supply action. You not only won't get what you want, but you'll be adding one more unnecessary straw to the supply camel's back.

- You can even goof with a preprint if you forget to copy the change in an FSN. Or, you can be looking at one card and pull another.

• So — a cure for supply headaches is to check and doublecheck that DA Form 2765 before you put it in the supply mill. A few seconds spent checking will be a big time saver. And you'll get better supply.

FOR YOUR HOT SUPPLY LINE

It's Red Ball/999

If you were in SEA, Red Ball Express delivered your repair parts when you needed them to keep your gear on the go.

Well, Red Ball died on 1 Aug 70.

But don't get shook. There's a deal called 999 that does the same thing for the rest of the world that Red Ball did for SEA.

On 1 Aug 70 a modified Red Ball/999 system was set up in SEA and will be in effect for a few months till we go 999 all the way.

Repair parts will move under Red Ball/999 just as fast as they did under Red Ball. SEA Red Ball/999 packages will come with the familiar Red Ball labels on them.

Your supply request may go as a 999 requisition if your outfit's FAD is I, II or III. Also, it has to be for real critical equipment that's NORS (not operationally ready — supply). Your CO has to approve your supply request.

Pamphlet On TAMMS

In case you missed it, be sure to order copies of DA Pamphlet 750-38 (May 70) on TAMMS. It's stocked at the Baltimore Pubs Center. Order it on DA Form 17.

SB 700-20 Asterisks

The explanation for the asterisks in SB 700-20 (Feb 70), Army Adopted Items of Materiel and List of Reportable Items, was left out of Page 1, Chap 1. An asterisk in the left margin indicates a new or changed entry.

Take No Chances

Brake failure at the wrong time is no fun. You guys with 2½-ton trucks, especially, should take a second look when you're checking over your front brake hoses. When you're pulling your before-operation inspection, look real close at those front brake hoses for surface cracking caused by age or fatigue, pinching at the steering stops, hydraulic fluid seepage and stress due to bum installation. If you suspect anything's wrong with a brake hose — anything at all — have it replaced with a new one, FSN 2530-373-3250.

Would You Stake Your Life right now on

FOR YOUR HOT SUPPLY LINE

It's Red Ball/999

If you were in SEA, Red Ball Express delivered your repair parts when you needed them to keep your gear on the go.

Well, Red Ball died on 1 Aug 70.

But don't get shook. There's a deal called 999 that does the same thing for the rest of the world that Red Ball did for SEA.

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Would You Stake Your Life right now **on the Condition of Your Equipment?**

Rotten Egg Commo?

Smelling rotten egg odors from the area of your commo equipment? Get alarmed quick, and lots of air even quicker. Chances are great that a selenium rectifier, which you find in all kinds of electronics equipment, has burned out or arced over and is giving off that strong,unpleasant odor. The fumes are toxic and can kill or permanently injure you. So, if you're in a tank, APC, shelter or any other enclosed area, turn the power off and get ventilation soonest. And . . . don't attempt to handle the rectifier till it cools.

Tropical Tip

No need anymore to mix up your own tropical electrolyte — 1.200-1.225 specific gravity — for lead-acid batteries. Order Sulfuric Acid, Electrolyte, FSN 6810-904-9372. You'll get a 5-gal. drum of electrolyte with a specific gravity of 1.2085-1.2185. This's in line with the requirement for tropical electrolyte in TM 9-6140-200-15 w/Ch 1 (Jan 62), the TM on lead-acid batteries.

Need An 1/8- Amp Fuse?

Hold one if you're about to order an ⅛-amp, 250-volt F02 style fuse with FSN 5920-142-4838! What you'll get is a 70-amp replacement under FSN 5920-056-7806 . . . and that's an L-uva-lot more fuse than you need. Until the confusion gets straightened out, FSN 5920-296-0451 will get you the ⅛-amp job you can use.

TM To Sew By

You'll want to get a copy of TM 10-8400-201-23 (Jun 70), General Repair Procedures for Clothing and Individual Equipment. It not only tells you how to take care of your uniform, but it covers sleeping bags, body armor, CVC helmet and load-carrying equipment. It's a general TM, so you'll be seeing more chapters added from time to time.

The Magic Number

Sure there's a magic number that'll get you expendable items — SB 700-50. Before you start quoting that SB, better take a look and see if the item you need is listed in it. If you don't find it in Chap 3, back up to Chap 2 where you find the Federal Supply Classes listed. Be sure to read the notes at the bottom of the page. They'll clue you as to the authorization for items. Be sure and get your latest changes to the SB.

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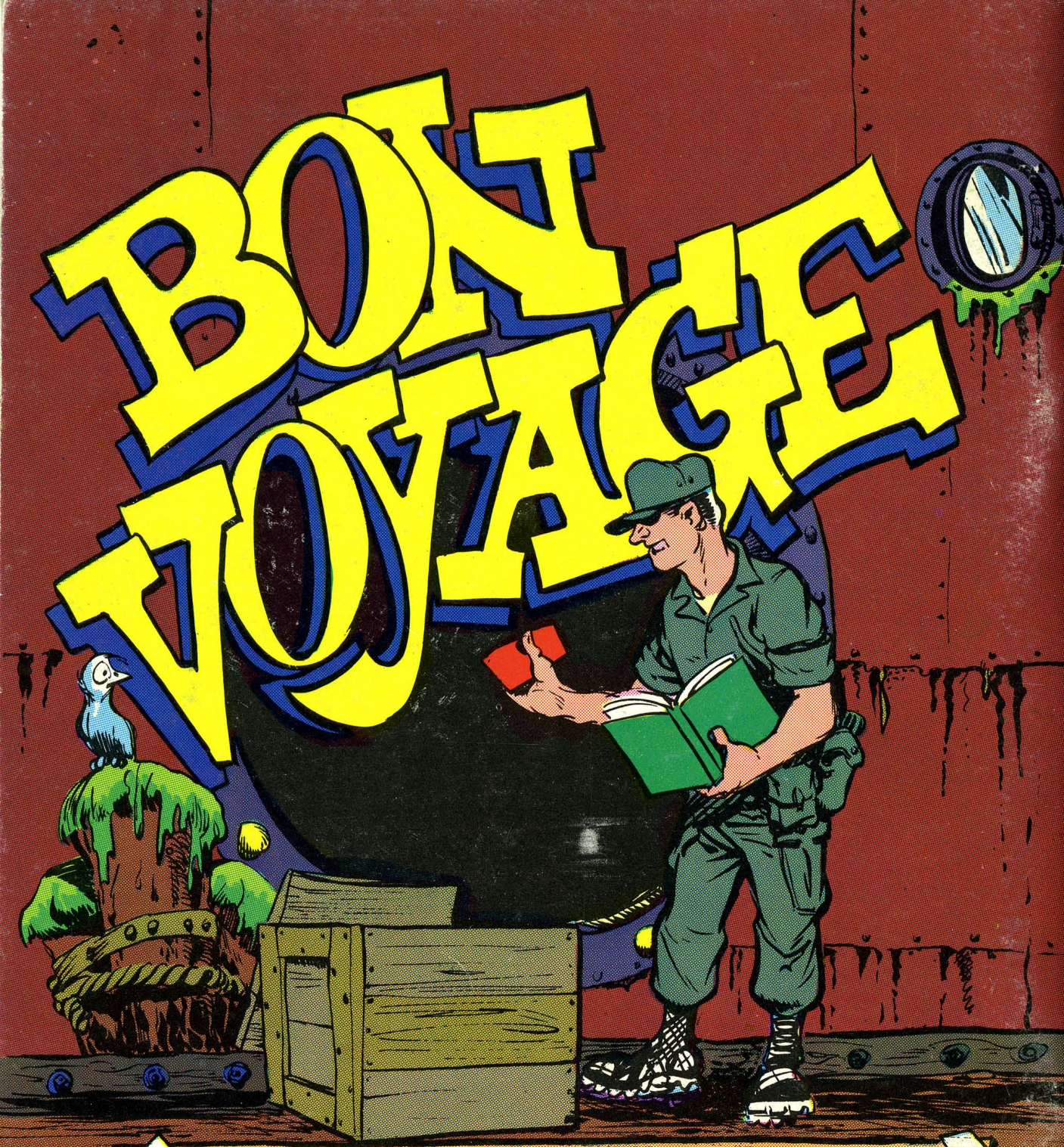

MOVING?

Remember – major items or their components going anywhere must have their log (or cards) with them . . . sort of like a "passport" for equipment.

Be sure equipment's log or cards get packed along with it